Pillar 3 Disclosure report

BNG Bank **2019**

Table of contents

Introduction 5

Scope of disclosure (articles 431 and 432 CRR) 6

Frequency and means of disclosure (articles 433 and 434 CRR) 8

Declaration of responsibility 9

Risk management objectives and policies (article 435 CRR) 10

General information 10

Credit risk 22

Market risk 29

Liquidity risk and funding risk 33

Operational risk 39

Strategic risk 46

Scope of application (article 436 CRR) 51

Differences between accounting and regulatory scopes of consolidation and mapping of financial categories to regulatory risk categories (EU LI1) 52

Main sources of differences between regulatory exposure amounts and carrying values (EU LI2) 55

Explanation of differences between accounting and regulatory exposure (EU LIA) 57

Outline of the differences in the scopes of consolidation (EU LI3) 58

Own funds (article 437 CRR) 59

Balance sheet reconciliation 59

Capital instruments' main features template 63

Own funds disclosure template 66

Capital requirements (articles 438 and 440 CRR) 73

Capital and solvency 73

Overview of RWA (EU OV1) 77

Countercyclical capital buffer (article 440 CRR) 79

Credit risk and credit risk mitigation (articles 442 and 453 CCR) 81

Credit quality of assets (EUR CRB-A) 82

Total and average net amount of exposures (EU CRB-B) 84

Geographical breakdown of exposures (EU CRB-C) 85

Concentration of exposures by industry or counterparty types (EU CRB-D) 87

Maturity of exposures (EU CRB-E) 89

Credit quality of exposures by exposure classes and instruments (EU CR1-A) 91

Credit quality of exposures by industry or counterparty types (EU CR1-B) 93

Credit quality of exposures by geography (EU CR1-C) 94

Credit quality of forborne exposures 95

Credit quality of non-performing exposures by past due days 96

Performing and non-performing exposures and related provisions 97

Changes in stock of general and specific credit risk adjustments (EU CR2-A) 100

Changes in stock of defaulted and impaired loans and debt securities (EU CR2-B) 102

Credit risk mitigation techniques – overview (EU CR3) 103

Standardised approach – credit risk exposure and credit risk mitigation (CRM) effects (EU CR4) 104

Standardised approach before risk mitigation (EU CR5) 106

Counterparty credit risk (article 439 CRR) 108

Analysis of the counterparty credit risk (CCR) exposure by approach (EU CCR1) 109

Credit valuation adjustment (CVA) capital charge (EU CCR2) 111

Standardised approach – CCR exposures by regulatory portfolio and risk (EU CCR3) 112
Impact of netting and collateral held on exposure values (EU CCR5-A) 113
Composition of collateral for exposures to counterparty credit risk (EU CCR5-B) 114
Exposures to central counterparties (EU CCR8) 115

Unencumbered assets (article 443 CRR) 116
Encumbered and unencumbered financial assets 116
Collateral received by an institution, by broad categories of product type 118
Carrying amount of encumbered assets/ collateral received and associated liabilities 120
Narrative information on the importance of asset encumbrance for an institution 121

Market risk (article 445 CRR) 122
Market risk under the standardised approach (EU MR1) 123

Remuneration (article 450 CRR) 124

Leverage ratio (article 451 CRR) 125

Exposures in equities not included in the trading book (article 447 CRR) 129

Exposure to securitisation positions (article 449 CRR) 131

Overview of Pillar 3 references 133

Introduction

The current international prudential regulatory framework for banks consists of a comprehensive set of measures developed by the Basel Committee on Banking Supervision (known as Basel III). Basel III has been implemented in the European Union through a Capital Requirements Directive (CRD) and a Capital Requirements Regulation (CRR).

The Basel framework (and thus CRD/CRR) is based upon three pillars:
- The first pillar consists of minimum capital requirements for three main categories of risk: credit risk, market risk and operational risk.
- The second pillar provides a framework for banks to review their capital (and liquidity) adequacy for both the risks identified in Pillar 1 as well as all other risks (e.g. concentration risk, strategic risk, etc.). This internal review by banks is known as the Internal Capital/ Liquidity Adequacy Assessment Process (ICAAP/ ILAAP). Supervisors independently assess these processes in their Supervisory Review and Evaluation Process (SREP).
- Finally, the third pillar aims to introduce market discipline to complement the capital and liquidity requirements from the first and second pillar. Therefore, Basel III (CRD/ CRR) contains a set of disclosure requirements which will allow market participants to have sufficient understanding of a bank's activities, the risks that are involved and the controls that are implemented to manage these risks.

This report is drafted in response to the last pillar and provides a comprehensive overview of the risk profile of BNG Bank. The main purpose of the Pillar 3 disclosure requirements is to promote the transparency of financial institutions. This contributes to a proper functioning of financial markets, improves efficiency of market discipline and helps in building trust between market participants.

Scope of disclosure (articles 431 and 432 CRR)

The scope of the Pillar 3 disclosure is based on the policy that BNG Bank has adopted to comply with the relevant regulatory requirements. This policy describes the rationale for a Pillar 3 report, identifies the departments involved and put in place internal controls and procedures for disclosing the required information. The policy is subject to review on an annual basis.

The scope of this report includes BNG Bank's two wholly owned subsidiaries *BNG Gebiedsontwikkeling BV* and *Hypotheekfonds voor Overheidspersoneel BV*. BNG Bank aims to disclose a comprehensive overview on its risk profile by including information that is clear, meaningful, consistent and comparable. This information does not fully align with the information that is disclosed in the financial statements which is based on IFRS accounting principles. Therefore, a dedicated Pillar 3 report is published. To avoid duplication of information, cross-references are made to BNG Bank's annual report and company website where the required information is disclosed comprehensively. Note that a cross-reference is included only if it contributes to the legibility of the report. Where disclosure is required for information that is considered proprietary or confidential, a generic disclosure is provided.

Pillar 3 disclosure requirements are included in the regulatory prudential framework and this Pillar 3 report is comparable to previous year. Since the Netherlands is the main geography where BNG Bank exploits its core activities, Pillar 3 requirements are subject to European legislation. Part Eight of the Capital Requirements Directive (CRR) and the guidelines on disclosure requirements[1] prescribe in detail the tables and templates through which the Pillar 3 information needs to be disclosed. Changes in this regulatory framework are monitored centrally within BNG Bank. The implementation of new or amendments in regulatory requirements are assigned to the responsible line management and supported by project management if necessary.

Following the review of the latest regulatory requirements, the Pillar 3 report has been updated to comply with these requirements. The information disclosed in this report is subject to the same internal control procedures as the information published in the annual report and other regulatory reports. Although this report has not been audited by external auditors, it has been audited by the bank's Internal Audit Department (IAD). Final approval

1 EBA/GL/2016/11, Guidelines on disclosure requirements under Part Eight of Regulation (EU) No 575/2013.

of the Pillar 3 report is provided in conjunction with the annual report by the Executive and Supervisory Boards.

This report is set-up to align with the structure of Part Eight of the European Banking Authority (EBA) guidelines and standards. The report provides a comprehensive qualitative overview on the management of risks by BNG Bank. In addition, it includes all the relevant templates for disclosing the quantitative information as required by the EBA. An overview of the Pillar 3 disclosure requirements with specific references to the relevant pages in this document is included at the end of this report.

Frequency and means of disclosure (articles 433 and 434 CRR)

The Pillar 3 disclosure of BNG Bank is published annually together with the publication of the annual report. Both reports are available on the website of BNG Bank.

In considering the relevant EBA guidelines on the frequency of disclosure[2] BNG Bank has assessed the need to publish information more frequently and concluded that an annual publication of a comprehensive Pillar 3 disclosure report is sufficient despite the designation of BNG Bank as an Other Systemically Important Institution (O-SII). BNG Bank is characterised by a stable business model with a limited range of activities and exposures. Hence, the risk profile of BNG Bank is not prone to any rapid changes. As a result, the information that generally qualifies for more frequent disclosure, does not exhibit any sudden material fluctuations. Therefore, an annual disclosure suffices.

In addition, BNG Bank publishes an interim report on its website which is audited by an external auditor. Any sudden changes in the financial position or in the markets in which BNG Bank operates will be addressed in this interim report. If these circumstances would lead to material changes in the risk profile of BNG Bank an additional disclosure of some or all the Pillar 3 requirements will be contemplated.

2 EBA/GL/2014/14, Guidelines on materiality, proprietary and confidentiality and on disclosure frequency under Articles 432(1), 432(2) and 433 of the CRR.

Declaration of responsibility

We confirm that the 2019 Pillar 3 Report has been prepared in accordance with the internal control processes as they have been agreed upon within BNG Bank. The 2019 Pillar 3 Report includes the disclosures as prescribed in Part Eight of the CRR and provides a comprehensive overview on the risk profile of BNG Bank as at year end 2019.

The 2019 Pillar 3 Report was approved by the Executive Board on 13 March 2020.

Executive board
Ms G.J. Salden, Chair
O.J. Labe
J.C. Reichardt

Risk management objectives and policies (article 435 CRR)

General information

Institutional risk management approach

The process of accepting and controlling risks is inherent to the day-to-day operations of any bank. In order to conduct its operations, a bank must accept a certain level of credit, market, liquidity, operational and strategic risk. BNG Bank's risk management strategy is aimed at maintaining its safe risk profile, which is expressed in its high external credit ratings. BNG Bank's strict capitalisation policy, the restriction on services and counterparties as laid down in its Articles of Association and the fact that the bank has no trading book, determine the scope, size and sphere of the bank's risk appetite.

Risk acceptance is guided by the following principles:

- BNG Bank aims to provide the best possible services to its stakeholders, now and in the future. The return required by its principal shareholder takes into account the strategy of the bank to maintain a prudent risk profile. This means that the required return should not result in the bank taking risks that jeopardise its ratings and funding position at a level that it would no longer be able to fulfil its long-term mission.
- In addition to a reasonable return for shareholders, highly competitive prices are a major focus. Apart from assuming the inherent risks for lending to clients, the bank is willing to selectively accept additional risks for activities that support lending to clients. These activities are considered carefully based on their risk and return characteristics. The additional return generated from these activities supports the long-term pricing strategy of the bank. To reiterate, this must not be at the expense of the external ratings and excellent funding position.
- Specific to the public sector, the largest share of the bank's lending (loans and advances) is not subject to solvency requirements. Hence, there is an emphasis on the distinction between lending that is not subject to solvency requirements (zero-risk-weighted) and

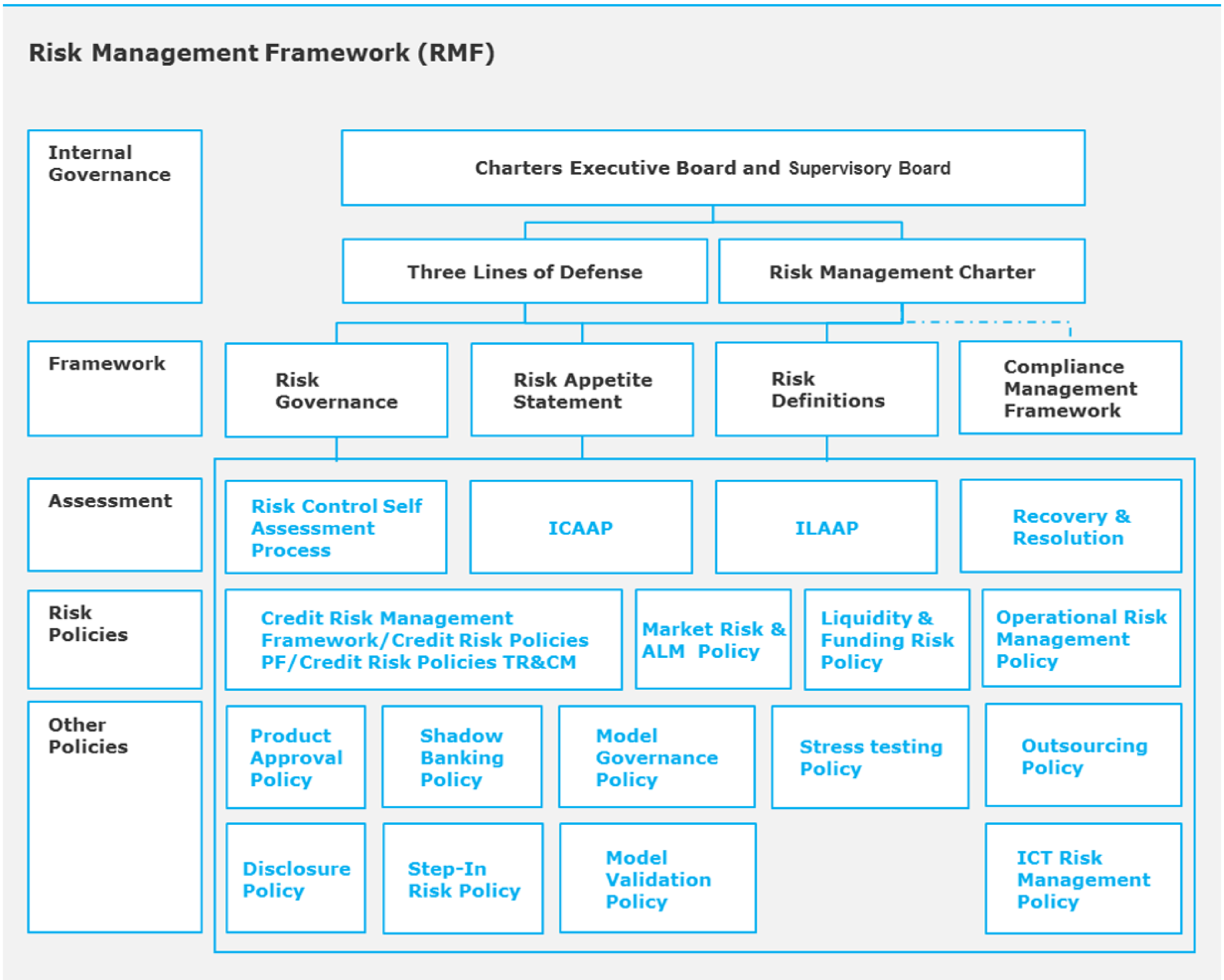
lending that is subject to solvency requirements (non-zero-risk-weighted). To facilitate lending at the lowest possible rates, it is essential that the bank retains its high rating and competitive funding position by imposing restrictions on solvency weighted lending which put a limit to credit risks.

These overarching principles are decisive elements in determining the risk appetite of BNG Bank. To ensure that the risk appetite is embedded in the organisation, several sub processes are put in place.

In the following sections, an overview of the main elements of the Risk Management Framework is provided, which includes Risk Governance, Risk Appetite Statement and the management of individual risks. Information is disclosed in tables and templates that correspond to the relevant EBA guidelines on disclosure requirements.

Risk management framework

The Internal Governance Framework (IGF) provides an overview of the internal governance organisation that forms the foundation for all decision-taking activities within BNG Bank. In relation to risk management, the IGF describes how risk management is organised in the bank's 'Three Lines of Defense' (3LoD) model and how decisions on risk topics are structured in its Risk Management Charter. The Risk Management Framework (RMF) is an important component within the IGF and it consists of a number of overarching framework documents and policies on general and specific risk related topics. The figure that follows, provides an overview of the RMF and the hierarchy between the different parts. The RMF identifies and defines the various types of risks, defines the risk appetite of the bank, describes the bodies involved in risk governance, sets out the roles and responsibilities, and includes the various policy documents that describe the acceptance and management of these risks. The RMF of the bank is characterised by its specific business profile that has a strong interconnectedness with the Dutch Public Sector, a low default credit risk profile as a consequence and a relatively large balance sheet. The bank has adopted a continuous risk management process that includes the following key steps: identify, assess, measure, monitor, report and steer the various types of risk.


Risk Management Framework (RMF)
Internal Governance
Charters Executive Board and Supervisory Board
Three Lines of Defense
Risk Management Charter
Framework
Risk Governance
Risk Appetite Statement
Risk Definitions
Compliance Management Framework
Assessment
Risk Control Self Assessment Process
ICAAP
ILAAP
Recovery & Resolution
Risk Policies
Credit Risk Management Framework/Credit Risk Policies PF/Credit Risk Policies TR&CM
Market Risk & ALM Policy
Liquidity & Funding Risk Policy
Operational Risk Management Policy
Other Policies
Product Approval Policy
Shadow Banking Policy
Model Governance Policy
Stress testing Policy
Outsourcing Policy
Disclosure Policy
Step-In Risk Policy
Model Validation Policy
ICT Risk Management Policy

Three lines of defence approach

BNG Bank is committed to developing a solid level of segregation of duties and focuses on the robust execution of risk management activities. BNG Bank has adopted the 3LoD risk management model. The 3LoD model distinguishes three groups (or lines) involved in effective internal control and risk management:

- First line, Risk Ownership – Business (Core Business and Support functions);
- Second line, Risk Control – Risk Management, Credit Risk Assessment, Compliance, Security, Management Control;
- Third line, Risk Assurance – Internal Audit Department.

Each line of defence has a defined role in the internal control and risk management system. The model ensures that there is adequate segregation of duties between direct accountability for risk decisions (first line), independent monitoring and challenge of risk decisions within the risk management framework (second line), and independent assurance on the effectiveness of risk management, control and governance processes (third line).

Risk governance

The Management Board and the Supervisory Board of BNG Bank are regularly informed about the risks and risk management.

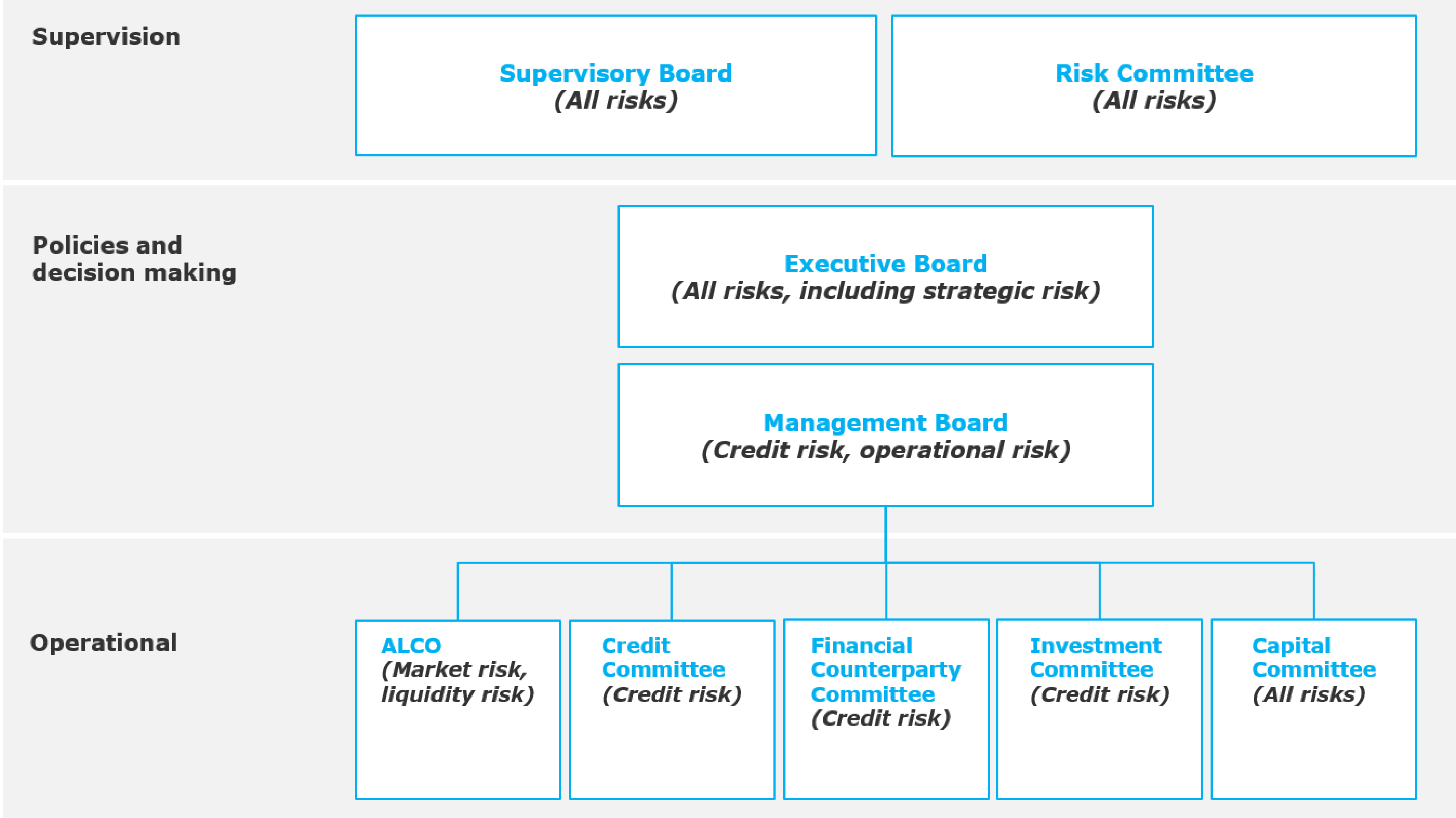
The following table provides an overview of the important reports that the MB and SB receive, as well as their frequency.

Table of reports and frequencies

3LoD	Report	Management Board	Supervisory Board
1st line	Management report business	quarterly	
	Business review	various	
	Financial report	quarterly	quarterly
	In Control statement	annually	
	ICAAP	annually	annually
2nd line	Risk report	quarterly	quarterly
	Compliance report	quarterly	quarterly
	Security report	monthly	
	Incident reporting	quarterly	
	Risk Control Self-Assessment outcomes	quarterly	
	Risk Appetite Statement	annually	annually
	Recovery plan	annually	annually
	Risk analysis on remuneration policy		annually
	ILAAP	annually	annually
3rd line	Internal audit reports	various	quarterly
	Audit report external accountant	annually	annually
	Management letter external accountant	annually	annually

Risk management activities are integrated in all parts of the organisation of BNG Bank where key risks are being considered. The following figure provides an overview of the relevant risk governing bodies at different levels within the organisation:

Risk related governing bodies



BNG Bank has adopted a two-tier governance structure consisting of a Supervisory Board and an Executive Board. An up-to-date overview of the members of these Boards as well as their subcommittees is available on the website of BNG Bank[3,4]. Information on the number of directorships, the profiles of board members as well as their duties and responsibilities is also included here. The powers and responsibilities of the Supervisory Board, supported by the Risk Committee and the Executive Board regarding risk management are defined in their charters.

The Supervisory Board approves the Risk Appetite Statement and monitors whether the actual risk profile of the bank is within the approved risk appetite. The Executive Board is responsible for formulating the Risk Appetite Statement and navigating the bank's activities within its risk appetite through its risk committees, which manage the various risks at operational level (the operational committees). The annual report 2019 provides a comprehensive overview of the corporate structure as at the end of December 2019 and the corporate governance statement (pages 54-58, 78-79 and 80-94)[4].

[3] For the Article of Associations of BNG Bank.
[4] For the Executive Board.
For the Supervisory Board.
The annual report is available at the website.

Formal risk-taking decisions on subjects with potential strategic impact as well as escalations by an operational risk committee are taken in the Executive Board meeting. The risk decisions on key business operational subjects are taken by the Management Board (MB). The MB is advised by various risk committees. Since all Executive Board members are also represented in the Management Board, all decisions taken by the Management Board are therefore considered formal decisions of the Executive Board. The risk committees at operational level are chaired by a member of the Executive Board. These committees ensure the various risk-taking activities of the bank operate in accordance with the policies and advise the Management Board on changes in policies.

Other committees that are relevant in connection to risk management are the Audit Committee and the Remuneration Committee of the Supervisory Board.

The following departments in particular are important in supporting the Executive Board and the committees in the implementation of risk policies:
- The Risk Management department qualifies, quantifies and monitors risks, and reports to the responsible committees. These risks consist of credit risk, market risk, liquidity risk, operational risk and strategic risk. The department maintains the risk policy documents and the Risk Management Framework. Risk Management participates in the internal risk committees as well as in the Risk Committee of the Supervisory Board.
- The Credit Risk Assessment department provides independent assessments of and advices on risks in relation to credit and reviews proposals for clients and financial counterparties. It also participates in the formulation of policies with respect to credit risk. As part of the operational lending process, it is represented in the bank's Credit Committee, the Financial Counterparties Committee and the Investment Committee. This department is also responsible for the bank's Restructuring and Recovery Management activities – being the supervision, management and processing of non-performing loans and advances as well as other exposures in the loan portfolio where the bank perceives a strong increase of credit risk.
- Where necessary, the Compliance department is engaged in issues in connection with conduct and integrity. The duties, position and authorities of this compliance function are elaborated on the BNG Bank Compliance Charter. The Compliance Officer reports to the Executive Board and has a direct reporting line to the Supervisory Board.
- Security provides support to the Management Board and line management in order to safeguard the reliability and continuity of the business processes. It role is also to ensure security risks are in control. Security is involved in projects from a security perspective. The Information Security Officer is positioned in the Processing directorate, with a direct reporting line to the CRO as well as the Management Board in order to safeguard its second line function.
- The Internal Audit Department (IAD) periodically conducts operational audits in order to evaluate the structure and performance of the bank's risk management systems as well as to assess compliance with the applicable legislation. The IAD functions as an independent entity within the bank and reports to the Executive Board. The IAD also has a direct reporting line to the Supervisory Board.

Risk appetite

The Risk Appetite Framework (RAF) is an important part of the RMF. This framework covers policies, processes, controls and systems through which risk appetite is established, communicated and monitored. In addition, it includes a Risk Appetite Statement (RAS), risk limits, and an outline of the roles and responsibilities of those overseeing the implementation and monitoring of the RAF. This framework considers material risks to the financial institution as well as to the institution's reputation vis-à-vis policyholders, depositors, investors and customers. The RAF aligns with the institution's strategy.

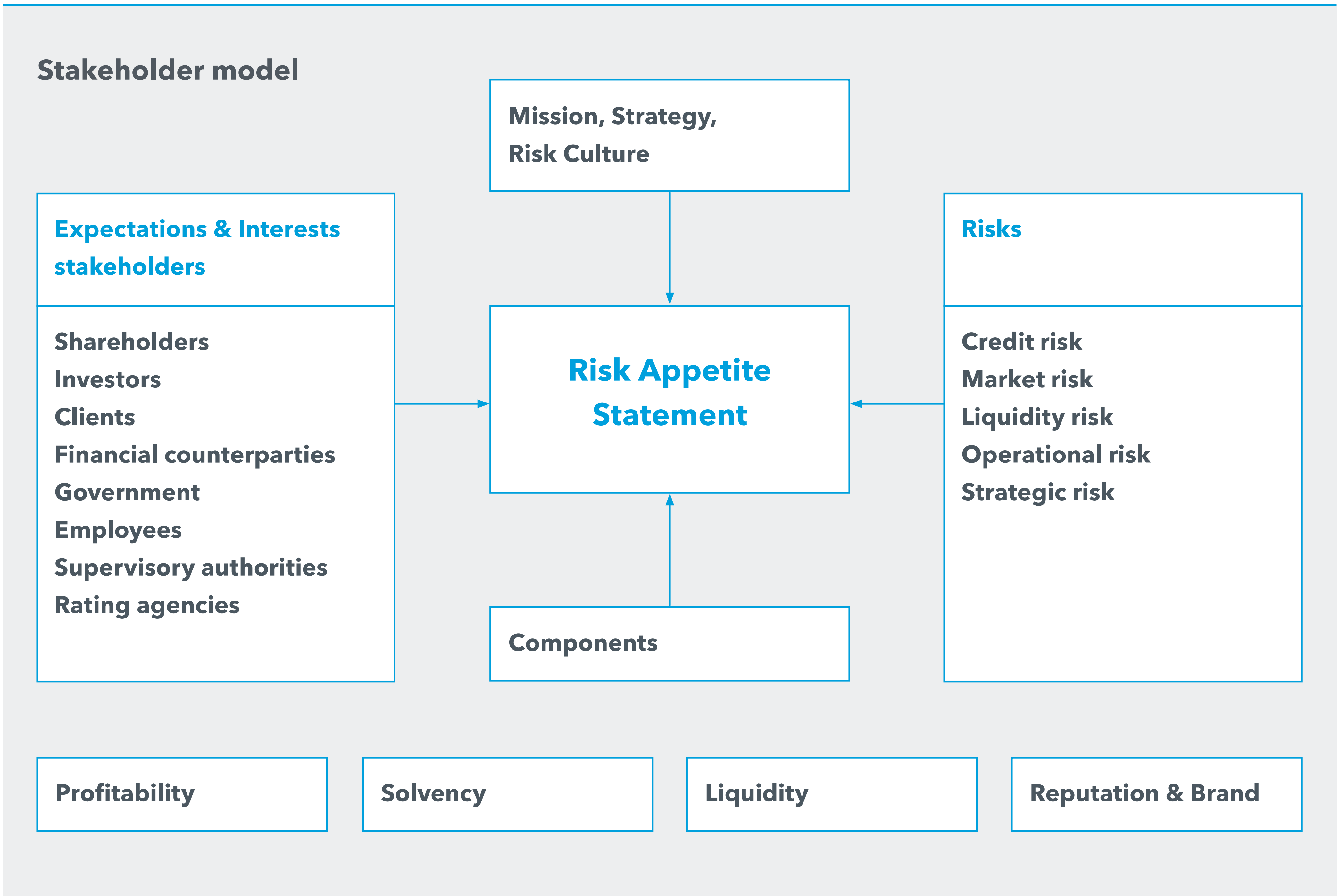
The risk appetite is evaluated annually to ensure continuous alignment with the following strategic objectives of BNG Bank:

- being a relevant financier for local authorities and institutions for housing, healthcare, education, energy and infrastructure in the Netherlands;
- delivering a reasonable return for shareholders.

It is also assessed to ensure the conditions within the following context are satisfied:

- maintaining an excellent risk profile;
- being a goal-oriented and efficient organisation.

Each year, the bank prepares the RAS, which sets out the types and the level of risk that the bank is willing to accept – decided in advance and within its risk capacity – in order to achieve its strategic objectives and business plan. The bank needs to ensure that the risk appetite stays within its risk capacity given its capital base, risk management and control capabilities and its regulatory constraints. When fulfiling its mission and executing its strategy, the bank balances the expectations and the interests of its stakeholders. To facilitate this, a stakeholder model is used, as represented in the following figure.



BNG Bank recognises both financial risks in the form of credit risk, market risk and liquidity risk, as well as non-financial risks in the form of operational risk and strategic risk. In addition, several components are defined that represent the financial health of the bank's operations which are being considered in the development of the risk appetite. The components (1) Profitability, (2) Solvency and (3) Liquidity are commonly used for assessing the overall financial health of a bank. Hence, these are considered key determinants in the risk profile of a bank. In addition, BNG Bank has included (4) Reputation and Brand in this model, as BNG Bank places great value on an impeccable reputation.

Profitability
BNG Bank aims to minimise borrowing rates for the public sector and hence does not seek to maximise profits. For its shareholders, the bank's objective is to achieve a reasonable return. Relative stability of the annual results is also important to different stakeholders, including regulatory authorities and rating agencies. 'Relative' in this context refers to a maximum percentage of deviation relative to the previous annual result.
Solvency
BNG Bank aims expressly to stand out in the financial markets in terms of size and quality of its capital. This is reflected in the desired rating profile: a rating at the same level as the Dutch State. To achieve this, BNG Bank's capital must be significantly greater than the criteria applied by the regulatory authorities and also greater than the majority of other banks. This relates to domestic Dutch banks as well as foreign banks.
Liquidity
BNG Bank intends to maintain a lasting and stable presence in the chosen market segments in the Dutch public sector, and continue to meet the demand for lending even in times of stress. It also aims for a prudent liquidity position, with due regard for the principles that it is always able to meet its short-term obligations and that it also adequately mitigates its refinancing risk. In this context, continuous access to funding is crucial and hence continuous maintenance of an attractive, varied issuance programme of sufficient volume for investors is a prerequisite. In addition, it is important to have sufficient collateral lodged with the ECB in order to ensure that short-term funding can be raised with the ECB in times of need.
Reputation & Brand
BNG Bank aims to retain the perception of its stakeholders on the bank as a quasi-public-sector body with excellent creditworthiness as well as a fine reputation and integrity profile. The bank also wants to retain its status as a promotional bank. As such, the bank is not willing to assume any risks of which may reasonably be presumed that the risk can harm its integrity and/or reputation. BNG Bank aims to exercise due care in the provision of services and to observe a duty of care towards its clients, and endeavours to provide tailored products and services at competitive rates.

As a result of the foregoing, the bank is prepared to accept the following risks.

Credit risk

- Counterparty (default) risk towards clients associated with lending subject to solvency requirements. These are mainly clients from the public sector that are covered by the bank's mission. The return on lending subject to solvency requirements can support the competitive rates charged for lending that is not subject to solvency requirements.

- Counterparty risks in relation to financial counterparties resulting from activities that support lending (including hedging of market risks through derivatives).
- Concentration risk in relation to the Dutch public sector is considered inherent in the business model. A sizeable part of the associated exposure relates to public-sector real estate. This risk is partly mitigated by the guarantee funds in the Social Housing sector and Healthcare sector with a residual risk exposure for the bank to the Dutch State.
- Investments that support lending to clients.
- Loans and investments subject to solvency requirements are only assumed in a ratio appropriate for a promotional bank and provided that they do not jeopardise the bank's mission.

Market risk

- BNG Bank hedges the interest rate risks arising from lending (loans and advances) and borrowing. However, the bank is willing to accept a certain degree of interest rate risk. While a certain maturity mismatch related to the bank's capital base is a common source of income for banks, BNG Bank strives to achieve additional return through an active interest rate position policy. With regard to tenor basis risk, the bank accepts a limited position arising from regular funding and lending.
- Optionality is only accepted where explicitly permitted by risk policies or product approval documents.
- The bank accepts the risk to earnings and capital caused by unfavourable spread fluctuations, under the condition that this risk is covered by a sufficient amount of allocated capital.
- The bank hedges the risk arising from changes in the value of financial instruments that can result from the change in an index.

BNG Bank is not willing to assume any exposures to foreign exchange risk. Foreign exchange risks are therefore hedged, including FX basis risk. Furthermore, BNG Bank has no trading book and consequently does not assume any market risk resulting from trading portfolios.

Liquidity risk

- To be able to meet payment obligations at all times, short-term liquidity risks are only accepted if they are matched by sufficient liquidity buffers capable of meeting these short-term obligations.
- The public sector consists largely of institutions with a long-term investment horizon. This means that loans frequently have long maturities, which can remain in our books for decades. As BNG Bank is unable to raise funding for these maturities, a funding mismatch is accepted, provided that there are sufficient buffers to be able to refinance at acceptable cost with a high degree of probability even in times of stress. The bank is also willing to accept the refinancing risk arising from the liquidity requirement related to activities other than lending to its clients, as is the case with investments. However, the ensuing additional liquidity requirement must not jeopardise the bank's mission.

Operational risk

- Operational risk is inherent in operating a business. BNG Bank accepts that providing tailored services entails additional inherent operational risks. These are risks that are not inherent in the bank's standard products.

- Mitigating alternatives for operational risks are chosen by weighing the costs against the economic benefits, except in case of compliance with legal and regulatory requirements as well as integrity, where the risks are minimised.
- In addition to lending, BNG Bank also provides its clients with other products, such as current account and payment transaction services. Clients benefit from this broader range of services, which also promotes client loyalty to the bank. The bank is willing to accept operational risks also for these additional products, provided that they do not jeopardise its mission.

Strategic risk

For strategic risk, it is more difficult to determine the extent to which risks are assumed, since they are driven by external factors in particular and are therefore less easily influenced. However, the bank needs to address the risks that emerge from changes in its environment. Given its close ties to the Dutch public sector, its sensitivity to government policy and its status as a promotional bank, political risk and regulatory risk are important elements. To monitor and mitigate these risks, the bank is permanently in close contact with its stakeholders. In addition, it observes and analyses the regulatory processes, and it participates in several banking associations.

To remain relevant, it is essential for the bank to be responsive to new economic and social developments. New initiatives are being developed to reposition itself as a partner serving the public sector. Furthermore, sustainability is a major issue for the bank's clients. A failure to meet clients' expectations can adversely affect the bank's market position.

BNG Bank actively advances the message that it wishes to partner with clients in relation to sustainability. Although the bank is aware that it cannot fulfil all demand by itself. This risk is assumed since the bank believes it will be able to fulfil this commitment in the medium to long term.

Risk appetite cycle and results

On an annual basis, the Risk Appetite Statement is updated based on external and internal developments. It is subsequently cascaded into limits, targets and ratios for the various types of risks. These are subject to a monitoring programme to determine each quarter whether the bank is within the limits of its risk appetite. The outcomes are reported to the Management Board and Supervisory Board as part of the quarterly Risk Report. The Risk Report provides aggregated information derived from figures that are used for daily limit monitoring and reporting to the various risk committees. As a result, the information conveyed to the Management Board and the Supervisory Board is in line with the information used in the operational processes. Finally, further examples of tools to monitor compliance with the risk appetite of the bank are the yearly In Control Statements by senior management as well as the reports by internal and external auditors.

In 2019, the bank continued to operate within its risk appetite and there were no major limit breaches. With regard to capital, the bank satisfied legally binding supervisory requirements as well its additional internal capital targets. With regard to operational risk, the bank remained within the internal norms for operational incidents. For strategic risk, the bank increased focus on strategic planning and execution in the fields of digitisation, disintermediation and sourcing.

Compliance Management Framework

For a bank to keep its 'license to operate' it is of utmost importance to have a solid and trustworthy reputation. Applicable laws and regulations have increased by number and are more often of a complex nature. Furthermore, the requirement of a demonstrable compliance has grown of importance. Therefore an effective and efficient framework is needed to manage future and current compliance risks.

The Compliance Management Framework (CMF) is another important internal control related framework within the Internal Governance Framework (IGF) of BNG Bank. The CMF aligns to the main principles of the RMF that include risk categories and definitions, risk appetite and the risk management cycle.

Compliance with applicable laws and regulations is classified into four main categories, as follows:

1. Prudential - regulations that relate to the solidity of the bank in order to safeguard the financial stability;
2. Financial markets - regulations that focus on financial markets processes, relations between market parties and services to clients;
3. Other - regulations that are not part of the prudential or financial markets category;
4. Integrity - regulations that focus on integrity related topics.

Adequate execution of the CMF ensures that the compliance risk is in control which contributes to controlling reputational risk. In addition, the CMF generates early alerts with information on regulatory changes relevant for assessing potential impact on, for example, strategy, commercial activities and asset and liability management. Note that the CMF was being implemented in 2019 and will become effective from 2020.

Credit risk

Definitions

Credit risk is defined as the risk of losses in earnings or capital resulting from the potential risk that a borrower or a counterparty will fail to meet its obligations in accordance with agreed terms. It includes counterparty risk, settlement risk and concentration risk:

- counterparty risk – the risk of losses to earnings and capital arising from a party failing to make payments that result from a financial transaction, at the moment those payments are due;
- settlement risk – the risk of losses to earnings and capital arising from a party failing to comply with the conditions of a contract (or a group of contracts) with another party at the time of settlement;
- concentration risk – the risk that additional credit losses are realised due to the exposure of outstanding credit to a common driver.

Governance

BNG Bank has an internal risk management organisation that serves to control its credit risks. This organisation is in line with the diversity and complexity of the bank's lending activities, and is structured as follows:

- The Executive Board determines the relevant lending parameters and policies, facilitated by the Management Board.
- The Credit Committee or the Head of Credit Risk Assessment decides on loans and advances subject to solvency requirements.
- The Financial Counterparties Committee decides on acceptance of financial counterparties as well as limits for transactions with financial institutions.
- The Capital Committee advises on policies regarding the capitalisation of credit risk and stress testing. It also advises on the implementation of new regulations.
- The Investment Committee decides on proposals for investment in interest-bearing securities.

The Credit Risk Assessment department (on individual client level) and the Risk Management department (on portfolio level) share second line responsibility for assessing, quantifying, monitoring and reporting credit risk. These departments operate independently from the Public Finance and Treasury directorates, which are the risk owners and which have first line responsibilities for credit risk. The Risk Management department is responsible for the development of all Credit Risk policies.

Developments

In the course of 2019, all the Probability of Default (PD) models were validated by an external party. The bank continuously enhances its PD models in line with the relevant rules and regulations. Due to low credit risk for the bank, the credit risk assessment framework for zero-risk-weighted lending is limited. This framework was extended in 2019. In order to comply with current and future regulations as well as meeting supervisory expectations, further extensions will be necessary.

Brexit is expected to have a limited impact on the business model of BNG Bank. On the asset side, the bank's exposures are limited to a small number of public-sector exposures of investment-grade quality. In addition, BNG Bank does not provide any material cross-border services in the United Kingdom (UK). However, the business volume with financial counterparties is substantial, given the bank's policy to hedge market risks on both sides of the balance sheet with derivatives. The bank has prepared herself for a hard Brexit by onboarding European entities, for both its hedging and clearing activities.

In the second quarter of 2019, the bank took a provision due to challenges in relation to a waste management company. The situation was stabilised in the third quarter and the bank is currently working on further risk mitigation. In addition, in the last weeks of 2019 it became clear that a client was in financial distress due to a near bankruptcy of her main counterparty. As a result, the bank took impairments for these cases.

Counterparty risk

The bank is exposed to counterparty risk in relation to public-sector entities (loans and advances), financial counterparties (derivatives) and issuers of Interest-Bearing Securities (IBS) in which the bank has invested. BNG Bank applies the following credit risk mitigation measures:

- Guarantees received from a central or local authority or by the guarantee funds WSW (Social Housing) and WfZ (Healthcare). Because loans subject to solvency requirements are often extended under partial of full guarantees or suretyships, the loan remains partly or fully zero-risk-weighted on balance for BNG Bank (see the section on statutory market parties).
- Other forms of security such as pledges and mortgages are used to minimise possible losses due to credit risks. The potential risk-reducing effect, however, is not applied in the calculation of the regulatory capital requirement.
- Bilateral netting and collateral agreements based on a daily collateral exchange with financial counterparties, see also the section on financial counterparties.

Statutory market parties

The bank's Articles of Association restrict lending to parties subject to some form of government involvement. As a result, the credit portfolio is largely comprised of zero-risk-weighted loans and advances provided to or guaranteed by the Dutch government. Given the different risk characteristics between zero-risk-weighted and solvency required loans and advances, the bank implemented two different credit risk assessment processes.

Lending subject to solvency requirements contains a detailed assessment of the creditworthiness of the client, which is based in part on the bank's own internal rating model.

In addition, the bank has an internal risk assessment process for tailored transactions that includes operational risk elements. Moreover, the bank uses extensive qualitative product descriptions, in which the appropriateness of the product for different types of clients is made explicit.

The Credit Risk Assessment department prepares an independent second opinion on the credit proposal. The intensity of the decision-making process is determined on the basis of the proposed rating and the size of the loan. The bank's risk appetite also determines the level of maximum credit risk that the bank is prepared to accept for this client. The credit proposal must be in accordance with this maximum risk. Depending on size of the exposure and the risk profile, either the Head of Credit Risk Assessment or the Credit Committee decides whether the risk can be accepted. The Credit Committee is chaired by a member of the Executive Board, and it includes representation from the Public Finance directorate, the Credit Risk Assessment department and – where applicable – the Treasury department. If the Credit Committee is unable to reach an unanimous decision, the proposal is escalated to the Executive Board. A delegation model applies to loans and advances of limited scale or risk, in which the authority to make decisions lies with the Director of Public Finance and the Head of Credit Risk Assessment.

Following the approval of a credit proposal and the acceptance of the offer by the client, the credit management process starts. This includes the following elements:
- The file is completed with relevant documentation by the Public Finance Teams.
- The Public Finance Teams are responsible for file management, including monitoring securities and covenants.
- The creditworthiness is reviewed at least once a year. This involves an update to the internal rating. The Credit Committee evaluates these reviews. A delegation model applies here as well. Loans and advances whose credit quality (rating) has fallen below a specific level are subject to increased management scrutiny and, if necessary, are transferred to the Restructuring and Recovery Management group within the Credit Risk Assessment department.

The bank has a similar process for the assessment and review of the creditworthiness of parties that are standalone zero-risk-weighted clients or clients that have been granted loans and advances that are guaranteed by Waarborgfonds Sociale Woningbouw (WSW), Waarborgfonds voor de Zorgsector (WFZ) and/or government. A separate credit risk policy was implemented, detailing a.o. a delegation model regarding credit decisions and guidelines relating to reviews and credit proposals. Processes were described and secured. The bank's internal rating models have been adapted to facilitate these assessments for the housing sector as well as the healthcare sector, thus providing consistency with the existing assessment for non-zero-risk-weighted lending. In order to meet relevant regulations as well as supervisory expectations, further enhancement is being implemented.

BNG Bank actively follows the developments within the sectors in which it operates. This also applies to the operation of the institutions issuing the individual guarantees or suretyships. In addition, BNG Bank maintains contacts with relevant parties through a variety of channels, including conferences, seminars and bilateral meetings.

Credit risk models

Most of BNG Bank's clients are not rated by external rating agencies, such as Moody's, Fitch or S&P. The bank applies internally developed rating models to asses creditworthiness of clients. These expert models are sector specific and subject to periodic review and validation in accordance with the bank's model governance policy. These models are not applied for capital calculations under Pillar I, where the bank uses the Standardised approach. Models are in use for the following sectors:

- social housing;
- healthcare;
- education;
- DBFMO (Design Build Finance Maintain Operate, project financing);
- area development;
- energy, water, telecoms, transport, logistics and the environment.

The significance of the internal ratings is the same for all models.

Internal rating	Description
0	Zero-risk-weighted lending.
1 through 11	The credit risk is deemed acceptable. A regular annual review is performed.
12 through 13	Watch list: there is an increased credit risk. A review takes place at least twice a year.
14 through 17	Recovery & Restructuring Management: there is an increased credit risk. At least three times a year, a report on these debtors is submitted to the Executive Board.
18 through 19	Recovery & Restructuring Management: there is an increased credit risk and/or the debtor repeatedly fails to fulfil the payment obligations and/or there is no expectation of continuity. At least three times a year, a report on these debtors is submitted to the Executive Board.

The below table provides an overview of the distribution of the loan portfolio across those ratings. More quantitative details on the credit risk profile and the credit quality are included in the section on credit risk and credit risk mitigation.

Loans and advances	31/12/2019 EXPOSURE TO LOANS AND ADVANCES AND OFF-BALANCE, EXCLUDING INCURRED LOSS PROVISION	31/12/2019 % OF TOTAL	31/12/2018 EXPOSURE TO LOANS AND ADVANCES AND OFF-BALANCE, EXCLUDING INCURRED LOSS PROVISION	31/12/2018 % OF TOTAL
Zero-risk-weighted	**86,681**	**86.95%**	**87,124**	**87.82%**
Non-zero-risk-weighted				
Internal rating:				
– 1 through 11	11,780	11.82%	11,433	11.52%
– 12 through 13	503	0.50%	189	0.19%
– 14 through 17	431	0.43%	430	0.43%
– 18 through 19	290	0.29%	27	0.03%
	13,004	**13.05%**	**12,079**	**12.18%**
Total	**99,685**	**100.00%**	**99,203**	**100.00%**

External rating

BNG Bank uses the external ratings awarded by rating agencies, specifically S&P, Moody's, Fitch and DBRS. In determining the capital requirement, the bank uses the ratings of these four agencies if such ratings are available. The ratings relate either to a counterparty or specifically to a security purchased.

Financial counterparties

The market risks associated with loans to clients are mitigated primarily through derivative transactions with financial counterparties. The bank only conducts business with financial counterparties that have been rated by an external agency. Financial counterparties are periodically assessed for creditworthiness. If necessary, the limit on the maximum exposure to such a counterparty is re-adjusted accordingly.

In order to reduce credit risk, netting agreements are in place with financial counterparties with which BNG Bank actively enters into derivatives transactions. In addition, collateral agreements are concluded. These ensure that market value developments are mitigated on a daily basis by collateral. The agreements are updated where necessary in response to changing market circumstances, market practises and regulatory changes.

Investments in interest-bearing securities

BNG Bank's Interest-Bearing Securities (IBS) portfolio is held primarily for liquidity management purposes. The portfolio is composed of high-quality bonds, the majority of which are accepted as collateral by the central bank. BNG Bank's total IBS portfolio can be subdivided into a liquidity portfolio and an Asset & Liability Management (ALM) portfolio. The liquidity portfolio consists exclusively of highly negotiable securities and is subdivided according to the various Liquidity Coverage Ratio (LCR) levels. The ALM portfolio is subdivided according to the type of security. Each month, the development of the portfolio is reported to and evaluated by the Investment Committee. Using factors such as external ratings and – in part – internal ratings, the bank monitors the development on an individual basis. The securities qualifying under the liquidity coverage requirement are subjected to a due diligence review process. The assets within these portfolios undergo an impairment analysis twice a year.

Concentration risk

Regarding concentration risk, the bank differentiates between:
- country risk, with a distinction between domestic and foreign risk;
- sector risk;
- risk for individual parties, with a distinction between clients and financial counterparties.

Most of the bank's credit risk for zero-risk-weighted lending is concentrated on the Dutch government. For non-zero-risk-weighted lending, further concentrations exist in the market segments that are serviced by the bank, e.g. university hospitals. Almost all non-zero-risk-weighted exposures to public-sector entities are secured by means of collateral or other securities. The other exposures subject to solvency requirements relate to financial institutions. Regarding concentration risk, five (2018: three) of these financial institutions each represent an exposure of more than 10% of the Tier 1 capital.

Domestic country risk

A considerable degree of concentration risk on the Netherlands is inherent to BNG Bank's mission: financing the Dutch public sector. A considerable portion of the total outstanding is indirectly related to public-sector property. However, these risks are generally mitigated by government guarantees on lending as well as by the WSW and WfZ guarantee funds. These guarantees result in a concentration risk in relation to public authorities and guarantee funds. The guarantee funds are guaranteed by the central government via backstop constructions. What remains on balance is therefore a risk in relation to the Dutch State. The concentration of this risk is high, but it is inextricably linked to BNG Bank's business model.

Foreign country risk

The bank is exposed to foreign country risk as a result of transactions with financial counterparties to hedge market risks arising from lending and funding activities, as a result of its liquidity portfolio, and – to a limited extent – in the context of lending and investments in the public sector abroad. The bank invests in foreign securities for its liquidity portfolio, because the vast majority of its loan portfolio already relates to the Netherlands. Foreign lending is in most cases directly or indirectly guaranteed by the relevant governments.

All foreign exposures fall within limits set for each country. These limits mainly depend on the perceived credit quality of the country in question. Moreover, a general limit of 15% of the balance sheet total applies to foreign exposures excluding derivatives and collateral. At the end of 2019, the bank's long term foreign exposure (expressed in balance sheet value) totalled EUR 9.9 billion exposures (2018: EUR 10.3 billion). This represents 6.6% of the balance sheet total (2018: 7.5%).

Sector risk

Sector-specific policies and internal targets are used for lending without direct or indirect guarantees from the Dutch State. These sector targets relate to both maximum concentrations on the balance sheet and new transactions according to the bank's Annual Plan. Active portfolio management is positioned within the Public Finance department. Realisation of the risk targets is reported to the Management Board on a quarterly basis by Risk Management. The concentration risk per sector is also part of the Risk Management economic capital model used to assess the capital adequacy allocation.

Individual statutory market parties

For non-zero-risk-weighted parties, the exposures have to adhere to the Large Exposure Regulation under the CRR. The bank has adopted a more conservative approach regarding the maximum size of individual exposures. This further limitation takes into account the degree to which sectors are anchored in the public sector. The party's individual rating is a further criterion for limit-setting.

Individual financial counterparties

Transactions with financial counterparties primarily consist of interest rate and currency swaps undertaken to mitigate market risks. BNG Bank sets requirements for the minimum ratings of the financial counterparties with which it is willing to transact, taking into account the nature of the business conducted with that party. This limits the number of available parties and as a consequence, the number of transactions with approved parties is high. Daily exchange of collateral helps to mitigate the credit risk with respect to derivatives. A bankruptcy of a counterparty would result in market risks, as the market is subject to fluctuations while the derivatives need to be rearranged with another party. The Financial Counterparties Committee sets limits and monitors positions with financial counterparties. BNG Bank clears parts of its derivatives centrally via London Clearing House through five clearing members which are all based in the UK. In preparation for the Brexit, the bank has previously set-up arrangements with EU-based clearing members. Central clearing has inevitably resulted in a shift in concentration risk from individual financial counterparties to the clearing members and the clearing houses.

Settlement risk

Exposure to settlement risk is limited to transactions with financial counterparties. Settlement risk is potentially high for those parties because of the relatively large size of the bank's benchmark issues in foreign currencies. Netting and collateral agreements concluded with those parties serve to limit settlement risk resulting from the mutual offsetting of payments. Settlements with certain counterparties are distributed over time to prevent unnecessary concentrations at one point in time. Control measures throughout the operational process serve to mitigate the settlement risk further. The Bank Recovery and Resolution Directive (BRRD) offers protection for settlement and payment systems in the European Union (EU) in case of the resolution of a bank, effectively reducing the settlement risk in parts of the financial system. Capital allocation for settlement risk is based on an assessment of the likelihood of a possible loss from settlement risk and is updated on an annual basis as part of the ICAAP process.

Market risk

Definitions

Market risk is defined as an existing or future threat to the institution's capital and earnings as a result of market price fluctuations. There are several forms of market risk:

- interest rate risk - the risk of losses to earnings and capital arising from adverse movements in interest rates ('outright risk'), basis tenor rates, overnight indexed swap rates and the cross-currency basis spreads;
- foreign exchange risk - the risk of losses to earnings and capital arising from unfavourable exchange rate fluctuations;
- volatility risk - the risk of losses to earnings and capital arising from adverse movements in the implied volatility of market interest rates or currencies. This risk only applies to products with types of optionality, such as caps and floors;
- spread risk – the risk of losses to earnings and capital arising from unfavourable credit risk spread fluctuations, Credit/ Debit Value Adjustments (CVA/DVA) and index fluctuation (for example, the inflation index).

Governance

The Treasury and Capital Markets directorate is the 'first line of defence' and is responsible for day-to-day market risk management. This directorate is responsible for managing market risks resulting from commercial activities.

Risk Management is the 'second line of defence' and is tasked to monitor the market risk independently. It performs checks on a daily basis to ensure the risk positions are within the limits set by the Asset & Liability Committee (ALCO). The department prepares reports for the ALCO and Treasury, challenges the first line, and provides risks analysis and advice, both proactively and upon request. Risk Management periodically updates the assumptions used, maintains the set of policies, frameworks, procedures and reporting, and incorporates new regulations in their revision. By participating in the product approval process, it also plays an important role in identifying and assessing (new) market risks caused by new activities.

The ALCO advises the Executive Board regarding market risk policy and limit adjustments and is responsible for decision taking within the boundaries set in the policy. The ALCO consists of the CFO (Chair), CRO, the Managing Director of Treasury and Capital Markets, the Head of Risk Management and the Senior Economist and if required, supplemented with other participants, depending on the agenda.

Developments

In the course of 2019, the interest rate position gradually moved towards the long-term benchmark. Also, the bandwidth of maximum allowed interest rate positions around this benchmark was lowered. As a result of an expected rise in interest rates, the interest rate position, measured in basis point sensitivity, was still lower than the long-term benchmark applied by the bank throughout the year.

In 2019, the bank made extensive preparations for the Inter Bank Offer Rate (IBOR) transition. The transition progressed according to plan. In 2020, the transition from EONIA to €STER is scheduled to take place which will be a challenge that continues to require significant efforts.

Another development in 2019 was the development and implementation of a new statistical methodology to quantify the parameters in the ICAAP stress test as input for calculating the spread risk. Compared to the previous methodology that was mainly based on qualitative input, the new quantitative approach is more objective. This methodology was also implemented and integrated into the ALCO reporting and monitoring as part of the quarterly risk report.

Interest rate risk

Framework

The bank's most important interest rate risk is the 'outright risk' to the interest rate swap curve, which is determined excluding the impact of spreads. This means that changes in spreads such as credit spreads, CVA/DVA and cross-currency basis spreads do not influence the interest rate risk position and hedging. There is no material presence of early redemption options in BNG Bank's regular loan portfolio. Likewise, there is no material exposure in mortgages and the bank does not attract savings from private individuals. Consequently, there is no necessity to model client behaviour in its interest rate risk models.

The interest rate position in the banking book is internally managed in the books for Treasury and the ALCO respectively. The interest rate risk within the margin books (containing the lending and funding activities) and the ALCO book (containing the active interest rate position) are transferred to the Treasury book using internal swaps. The net interest rate risk in the Treasury book is hedged with external parties using derivatives[3].

The bank applies stress testing, in which the impact of the interest rate position is assessed based on multiple types of interest rate shocks (parallel and non-parallel) and from various perspectives (i.e. economic value, Earnings at Risk, tenor basis risk and the normative perspective).

Risk measures and limits

Working on the basis of market forecasts from the Treasury and Capital Markets directorate as well as the Economic Research department, the ALCO periodically determines the bank's interest rate outlook, and defines – within the predetermined boundaries – the interest rate position within which the Treasury and Capital Markets directorate must operate:

3 The accounting treatment of derivatives and hedged items in the balance sheet and income statement is such that they are aligned as much as possible with the actual economic hedging. Details on that accounting treatment are included in the annual report (pp. 131-133).

- The ALCO defines the active interst rate position by means of a target delta for each maturity interval in the ALCO book. In addition, the Treasury department has a mandate to hold an unhedged interest rate risk position within strict pre-defined limits;
- Economic value limits for the ALCO and Treasury book are set for the delta per maturity interval and for the interest rate stress-testing outcomes. The latter is calculated for several internal parallel and non-parallel interest rate shocks, and is compared on a daily basis to the capital allocated for interest rate risk. In addition, early warning levels are set for the internal Earnings at Risk scenarios such that a balance is sought between the economic value and the earnings perspective;
- The bank also sees to it that the outlier criterion is not exceeded, by applying an internal threshold value which serves as an early warning. The outlier criterion is prescribed by the Basel regulations, where it is used to express the maximum relationship between market risk and equity. The outlier criterion is a sensitivity analysis in which the interest rate risk is measured under six prescribed shocks, among which the instantaneous plus or minus 200 basis points parallel shock;
- Early warnings are set for tenor basis risk measures, which are connected to the capital allocated for this risk;
- In case of cross-currency swaps, the cross-currency basis spread risk is monitored on a daily basis. This risk is not limited, since the contracts are deemed to be held until maturity. Although in case of fluctuations capital may be affected through “cost of hedging”, the effect is not expected to materialise.

All these interest rate risk measures complement each other, and they ensure the transparency and manageability of risks.

Any breach of a limit must be reported to the ALCO. The ALCO decides whether action should be taken immediately in order to adjust the interest rate position to a position within the limit or to authorise the limit breach for a certain period of time. Early warning levels require no direct action from the ALCO but will be discussed in the regular ALCO meetings.

Monitoring and reporting

The risk measures are monitored and reported on a daily basis to the ALCO members as well as the Treasury and Capital Markets directorate. Only the Earnings at Risk measure is calculated on a monthly basis. The daily measures are summarised in a dashboard on a monthly basis, which is discussed in the regular ALCO meetings. In addition, these measures and limit monitoring are summarised in the quarterly Risk Report, which is presented to and discussed in the Management Board, the Risk Committee of the Supervisory Board and the Supervisory Board itself.

The limits with respect to interest rate risk were not breached in 2019, except for two occasions of a one-day breach as a consequence of shifts between buckets. In the bank’s opinion, its interest rate risk management was adequate, compliant with the regulatory standards and within the limits as defined in the bank's risk appetite and risk policies. The table below outlines the Earnings at Risk effect of a minus 100 basis points instantaneous parallel decrease (2019) for the 1-year and 2-year horizon. The applied scenario in 2018 (gradual decrease of 180 basis points) was updated in the course of 2019. The sign of

Earnings at Risk became positive due to the presence of floored floating rate assets in combination with decreased interest rates.

Earnings at Risk (in EUR million)	**2019**	**2018**
Horizon		
1 year	30	-24
2 years	26	-84

Foreign exchange risk

The bank obtains a large portion of its funding in foreign currencies and is therefore in principal exposed to foreign exchange fluctuations. However, according to the bank's policy, foreign exchange risks are hedged in terms of notional amounts. Incidentally, foreign exchange positions may occur in certain cases where it is not cost-efficient to hedge the risk. The foreign exchange risk of these minor positions is monitored on a daily basis, subject to limits. During 2019, these limits were not breached.

Volatility risk

In managing its interest rate risk exposure, the bank allows itself a very limited range for assuming volatility risk to support the active interest rate position. This range is limited and is monitored by the Risk Management department on a daily basis. During 2019, no additional volatility risk was assumed to support the active interest rate position. With regard to its other activities, BNG Bank's policy specifies that the volatility risks for new financial instruments should be hedged one-to-one. The resulting volatility risk is relatively small and is subject to monitoring by Risk Management.

Spread risk

The economic value of BNG Bank's equity is determined over its total portfolio of assets and liabilities. Both assets and liabilities are valued on the basis of an interest rate curve made up of market-based swap rates plus credit risk spreads. In case of interest rate swaps, the CVA risk (counterparty risk) and DVA risk (the bank's own default risk) are included. Spread risk is not hedged by the bank. The impact of changes in these spreads is measured and monitored on a daily basis. For the fair value instruments affecting profit and loss or regulatory capital, a warning level on the credit spread stress testing outcomes has been set.

Index risk

The bank has inflation-linked instruments in its portfolio. The bank's policy specifies that exposure to fluctuations in inflation risk should be hedged in full and it executes this policy. The inflation delta is monitored on a daily basis.

Liquidity risk and funding risk

Definitions

Liquidity risk is defined as the existing or future threat to the institution's capital and earnings due to the possibility that it will not be able at any moment to fulfil its payment obligations without incurring any unacceptable costs or losses.

- Short-term liquidity risk is the risk that the bank will not be able to attract sufficient funds in order to meet its payment obligations.
- Long-term liquidity risk (or refinancing risk) is the risk that the bank will not, as a result of its own creditworthiness, be able to attract any (or sufficient) funds against funding spreads that would not jeopardise its continuity.

Governance

The Treasury and Capital Markets directorate is the 'first line of defence', and is responsible for the day-to-day liquidity and funding risk management, and is in that role, also responsible for attracting funding. Treasury is mandated to assume a liquidity risk position within the limits and triggers as stated by the liquidity and funding risk policy. Treasury operates on the basis of its annual funding plan. This plan is approved by the ALCO, which is asked for approval in case of significant deviations.

The Risk Management department is the 'second line of defence' and is responsible for the independent monitoring of liquidity risk, as well as daily checks whether the bank remains within the limits and triggers. Additionally, stress scenarios are used to assess on a monthly basis whether liquidity and funding are sufficient. The Risk Management department independently reports to the ALCO and to Treasury on the use of predetermined limits, while it also provides risks analysis and advice, both proactively and on request. Risk Management periodically reviews the assumptions used, maintains the set of policies, frameworks, procedures and reporting, and incorporates new regulations. By participating in the product approval process, it also plays an important role in assessing (new) liquidity and funding risks from new or changed activities.

If liquidity limits or triggers are breached, the contingency funding plan is enforced. Additional ALCO meetings, temporary procedures for more intensive liquidity management and temporary control of liquidity management by the liquidity contingency team are the main elements of this plan. This plan is tested periodically.

Developments

In 2019, the ECB maintained policy interest rates at historically low levels and continued net asset purchase from November 1st. During 2019, there were also numerous economic and political factors that influenced financial markets, such as Brexit and the escalation of international trade tensions. Despite these developments, funding conditions for BNG Bank remained favourable during 2019. BNG Bank was able to operate effectively both on the capital markets and on the money markets.

The long-term funding volume target as set in the funding plan has been increased from EUR 17 billion to EUR 18 billion in the second half of 2019. This was due to a higher than targeted asset production and an increased level of cash collateral as a consequence of the extreme low interest rates environment. Moreover, as the maturity of new assets was longer than planned, the ALCO decided to increase the long-term funding maturity accordingly. The bulk of the short-term funding needs were addressed by the ECP and USCP programmes. In addition, repo funding also played a significant part in short-term funding in 2019.

As part of a multi-year data project, all data regarding liquidity risk was technically redesigned and is part of the central data warehouse. Key milestones for 2019 regarding reporting based on this new data warehouse were met and the project will be completed in the course of 2020. In Q4 2019, an external review of the liquidity risk framework was performed and the key recommendations from this exercise will be assessed in 2020. Furthermore, BNG Bank participated in the EBA Liquidity Stress Test in 2019, which was executed well by the bank as no recommendations for further improvements were reported by the ECB. This means, among other things, that liquidity buffers of BNG Bank can be considered sufficient.

Liquidity risk

Framework

BNG Bank wants to maintain a constant and stable presence in the capital markets, because the bank wants to continue to meet the demand for credit even in difficult times. It also pursues a prudent liquidity policy to ensure that it can meet its obligations at all times. In this context, ongoing access to the money and capital markets is essential, along with the ongoing maintenance of attractive, varied and sufficiently large issuance programmes for investors. In addition, buffers are required in order to have access to liquidity in times of stress. One such buffer is formed by assets held explicitly for liquidity purposes, known as the liquidity portfolio. The management of the size and composition of this portfolio is one of the liquidity measures taken to comply with the requirement under the CRR to have an Liquidity Coverage Ratio (LCR) of at least 100%. BNG Bank also holds ample quantity of collateral with the central bank, which enables it to obtain short-term funding immediately. Since most of the bank's assets could serve as collateral at the central bank, this collateral may be further extended in the event of prolonged stress. The size of both buffers is tested in the liquidity stress tests, which are monitored on a monthly basis. Furthermore, the funding plan and the corresponding planned liquidity gap are tested in an adverse stress scenario for the LCR and Net Stable Funding Ratio (NSFR) ratios.

Risk measures and limits

For several liquidity and funding risk measures such as liquidity gap analysis, the refinancing spread risk analysis, the contingency funding plan and liquidity stress scenarios assessing the survival period of BNG Bank, limits or early warning levels are in place. The survival period is the period in which the liquidity buffers remain sufficient to absorb the consequences of a stress scenario. Survival periods are determined under a range of stress scenarios. For all stress scenarios, except the reverse stress scenario, a limit to or target for the survival period is set in the cascading of the risk appetite. Moreover, contingency funding plan triggers are measured daily to identify a potential liquidity stress situation, in which case it can be decided to activate the contingency funding plan.

Monitoring and reporting

The liquidity gap analysis is monitored and reported on a daily basis to the ALCO members as well as the Treasury and Capital Markets directorate. All measures are summarised in a dashboard on a monthly basis, which is prepared and discussed in the ALCO meetings. In addition, these measures are summarised in the quarterly Risk Report, which is presented to and discussed in the Management Board, the Risk Committee of the Supervisory Board and the Supervisory Board itself.

During 2019, both the liquidity gap and the survival periods met the requirements laid down in the risk appetite. In this period, no contingency funding plan triggers were breached. The bank considers its liquidity management to have been adequate in 2019 and the strength of the bank's liquidity position to be amply sufficient as well as compliant with the regulatory standards and limits set by the ALCO. As at the end of 2019, the LCR ratio amounted to 158% (2018: 175%) and the NSFR ratio amounted to 126% (2018: 133%).

The below table provides an overview of the LCR during 2019. For disclosure purposes, our LCR is based on 12 data points for each quarter. The LCR remains well above the regulatory minimum requirements.

LCR disclosure template (EU LIQ1)

	Scope of consolidation (consolidated)	TOTAL UNWEIGHTED VALUE				TOTAL WEIGHTED VALUE			
	Currency and units (EUR million)	31/12/2019	30/09/2019	30/06/2019	31/03/2019	31/12/2019	30/09/2019	30/06/2019	31/03/2019
	Number of data points used in the calculation of averages	**12**	**12**	**12**	**12**	**12**	**12**	**12**	**12**
	High-quality liquid assets								
1	Total high-quality liquid assets (HQLA)					25,767	26,932	27,573	26,723
	Cash-outflows								
2	**Retail deposits and deposits from small business customers, of which:**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
3	– Stable deposits	-	-	-	-	-	-	-	-
4	– Less stable deposits	-	-	-	-	-	-	-	-
5	**Unsecured wholesale funding**	**17,372**	**18,263**	**18,102**	**16,793**	**15,328**	**16,228**	**16,067**	**14,757**
6	– Operational deposits (all counterparties) and deposits in networks of cooperative banks	-	-	-	-	-	-	-	-
7	– Non-operational deposits (all counterparties)	5,179	5,320	5,317	5,262	3,134	3,285	3,282	3,226
8	– Unsecured debt	12,193	12,943	12,785	11,531	12,194	12,943	12,785	11,531
9	**Secured wholesale funding**					**32**	**32**	**32**	**-**
10	**Additional requirements**	**13,510**	**13,696**	**13,514**	**13,969**	**4,478**	**3,920**	**3,745**	**4,232**
11	– Outflows related to derivative exposures and other collateral requirements	2,502	2,700	2,525	3,015	3,255	2,700	2,525	3,015
12	– Outflows related to loss of funding on debt products	–	–	–	–	–	–	–	–
13	– Credit and liquidity facilities	11,008	10,996	10,989	10,954	1,223	1,220	1,220	1,217
14	**Other contractual funding obligations**	**25**	**23**	**15**	**17**	**29**	**26**	**19**	**19**
15	**Other contingent funding obligations**	**42**	**36**	**38**	**52**	**2**	**2**	**2**	**3**
16	**Total cash outflows**	**30,949**	**32,017**	**31,669**	**30,830**	**19,868**	**20,208**	**19,865**	**19,011**
	Cash-inflows								
17	Secured lending (eg reverse repos)	485	261	259	300	75	24	23	40
18	Inflows from fully performing exposures	3,631	3,496	3,385	4,008	1,919	1,783	1,787	2,144
19	Other cash inflows	831	1,094	937	841	831	1,094	937	841
EU-19a	(Difference between total weighted inflows and total weighted outflows arising from transactions in third countries where there are transfer restrictions or which are denominated in non-convertible currencies)					–	–	–	–
EU-19b	(Excess inflows from a related specialised credit institution)					–	–	–	–

	Scope of consolidation (consolidated)	TOTAL UNWEIGHTED VALUE				TOTAL WEIGHTED VALUE			
20	**Total cash inflows**	**4,947**	**4,851**	**4,581**	**5,149**	**2,825**	**2,901**	**2,747**	**3,025**
EU-20a	Fully exempt inflows	–	–	–	–	–	–	–	–
EU-20b	Inflows subject to 90% cap	–	–	–	–	–	–	–	–
EU-20c	Inflows subject to 75% cap	4,483	4,590	4,322	4,223	2,819	2,901	2,747	2,687
21	**Liquidity buffer**					**24,743**	**26,067**	**27,031**	**26,236**
22	**Total net cash outflows**					**17,038**	**17,296**	**17,108**	**15,927**
23	**Liquidity coverage ratio (%)**					**147%**	**153%**	**162%**	**168%**

Funding risk

BNG Bank distinguishes between short-term and long-term funding (turning point: 1 year). The majority of funding is from international capital markets. The bank maintains a number of programmes that enable it to have access to funding at all times at competitive levels. The bank pursues proactive investor relations which support these efforts.

The following resources are used for short-term funding:
- Commercial Paper. The bank has a European Commercial Paper (ECP) programme of EUR 20 billion and a US Commercial Paper (USCP) programme of USD 15 billion. Under normal market circumstances, a substantial margin is maintained between the maximum size allowed under the programme and the bank's actual usage;
- repurchase transactions with interbank parties under a Global Master Repurchase Agreement (GMRA), where the bank's liquidity portfolio is used to pledge as collateral;
- deposits from institutional money market parties.

The bank does not enter into transactions with private individuals.

The following programmes are available for long-term funding:
- the Debt Issuance Programme (DIP) of EUR 100 billion. Socially Responsible Investing (SRI) bonds are also issued under this programme;
- the Kangaroo-Kauri Programme of AUD 10 billion, specifically for the Australian and New Zealand market;
- the Samurai shelf registration and Uridashi shelf registration, specifically for Japanese investors;
- the Namen-Schuld-Verschreibungen (NSV), under German Law;
- private loan agreements under different legislations.

For reasons of diversification, the bank also uses the following alternative funding sources:
- global loans from the European Investment Bank and the Council of Europe Development Bank;
- Guaranteed Investment Contracts (GICs).

The bank has a funding plan, in which the desired funding mix is described in more detail. Part of the funding plan is the annual issuance in benchmark size to maintain a 'BNG curve' in the market. These large-scale issues ensure that the bank has a high profile among investors, allowing it to retain access to investors even in times of market stress. The actual realisation of this desired funding mix or the reason for diverging from it is monitored and evaluated by the ALCO, by means of a quarterly funding dashboard provided by Treasury.

Operational risk

Definitions

Operational risk is defined as the risk of losses to earnings and capital due to the shortcomings of internal processes, people and systems, or as a result of external events. Operational risk comprises the following risks:

- Process risk is the risk of shortcomings of internal processes supporting all activities related to products, services, clients, transactions.
- People risk is the risk of losses to earnings and capital resulting from deliberate or unintended actions from people, shortcomings in capacity and employee management.
- ICT risk is the risk that business processes and information systems are supported by information technology whose protection is insufficiently sound, discontinuous or unsatisfactory.
- Data quality risk is the risk that data that are stored and processed are incomplete, inaccurate or inconsistent, impairing the ability of an institution to provide services as well as to produce (risk) management and financial information in a correct and timely manner.
- Outsourcing risk is the risk that the continuity, integrity and/or quality of activities outsourced to third parties, or the equipment or staff provided by these third parties, is adversely affected.
- Compliance risk is the risk associated with the institution's integrity and (changes in and compliance with) legislation and regulations.
- Legal risk is the risk associated with the possibility that contractual stipulations prove unenforceable or have been incorrectly documented.
- External event risk is the risk of events outside the Bank's direct or indirect control that can impact the Bank's operations.

Governance

The Executive Board decides on the operational risk policy, facilitated by the Management Board. The senior management in the Management Board interprets the policies and advises on mitigating or accepting operational risks. As such, the Management Board has the function of an Operational Risk Committee. Hence, the operational risk issues are put explicitly on its agenda. The Management Board is further supported by the three lines of defence.

Line management is the first line of defence and has as risk owner primary responsibility for managing operational risk in day-to-day operations, in line with policies and arrangements. Although operational risks cannot and need not be fully mitigated, they must obviously be made transparent and manageable.

The Risk Management, Compliance and Security departments constitute the second line of defence for operational risks. They advise, facilitate, challenge and monitor the management of operational risks by the departments in the first line. This to ensure the risks are appropriately identified and managed, thus enabling the organisation to be in control. From an operational risk perspective, the Risk Management department, the Compliance department and the Security Officer are involved in projects, process changes as well as in the Product Approval and Review Process. The Compliance department focuses on conduct and integrity risks. It is responsible for compliance monitoring of laws and regulations and compliance reporting to the Executive Board and the Supervisory Board. BNG Bank has set up a comprehensive framework for ensuring compliance with new and existing laws and regulations applicable to BNG Bank. The Security department provides support to the Management Board and line management in order to safeguard the reliability and continuity of the business processes as well as to be in control of security risks. The department is involved in projects from a security perspective. The Information Security Officer is positioned in the Processing directorate, with a direct reporting line to the CRO as well as the Management Board in order to safeguard its second line function. The Risk Management department provides insight in the exposure on operational risk of BNG Bank. They have expertise on all operational risks and cooperate with Compliance and Security on their disciplines. Risk Management facilitates the joint risk assessments. The first line is challenged on their management of operational risks. Risk Management monitors the risk activities of the first line and provides a quarterly Risk Report to the Executive Board and Supervisory Board, based on the risk appetite of the bank.

The Internal Audit Department (IAD) conducts independent assessments supplemental to the risk analysis by the Risk Management, Compliance and Security departments. As such, the IAD forms the third line of defence and reports to the Executive Board. Each year, the managing directors and the other direct reports inform the Executive Board whether they are in control of the processes and risks for which they are responsible.

Developments

From 2020 onwards the assignment of the Compliance department is broadened from a focus on integrity and conduct-related risks to a scope that also includes the monitoring of compliance by BNG Bank with all applicable laws and regulations. A Compliance Management Framework has been developed in 2019. For the (re-)assessment of integrity risk and compliance risk the Compliance department will associate with the risk and control self-assessment (RCSA) which is facilitated by Risk Management department. The RCSA cycle changes in 2020 from a biennial cycle to an annual cycle.

The business departments, being the risk owners, as first line of defence, have to strengthen their own risk monitoring by setting up explicit monitoring programmes. This will take effect in 2020.

Data quality continues to be important. Information based on data is used for business decisions. By the end of 2020 the company-wide data warehouse will contain all business data, necessary to meet both internal information needs and external requirements. The bank is striving for compliance with the Principles for Effective Risk Data Aggregation and Risk Reporting (PERDARR).

New legislation has resulted in a revised policy for Customer Due Diligence. Additional, external staff is deployed to support the necessary investigations. The process is supported by tooling and external client information.

On ICT applications BNG Bank prefers, if available, to purchase a suitable external solution over in-house development of tailored solutions. Moreover, the ICT environment is gradually moving from a situation whereby applications are running almost exclusively 'on-premises' to an environment where selected applications are running on a virtual cloud platform. A thorough risk analysis has to be conducted before data can be entrusted to a third party service provider. A cloud service is only considered for acceptance if the service provider can provide appropriate assurance on Confidentiality, Integrity and Availability.

In 2019, the new customer portal My BNG Bank went live. This portal is a custom solution which runs on a cloud platform. The security risk as well as other operational risks are thoroughly assessed and mitigated before introduction. Following a successful pilot all customers are now being onboarded.

Centric is a key partner for the bank's 'on premises' ICT. Multiple changes within a short period of time in the senior management of Centric have raised concerns, but the services provided are in line with the agreed service level.

As a small bank in terms of number of employees, BNG Bank is vulnerable with respect to staffing. Apart from the daily business, ICT projects and other changes must be implemented. Furthermore, broad employability and mobility of staff is promoted to improve organisational agility.

General

The Risk Management department supports, advises and challenges line management through several risk management tools. Periodically, Risk Management facilitates risk and control self-assessments (RCSA) , supporting line management. The key risks are identified and documented, as are the mitigating key control measures and the resulting residual risk. Risk Management, Compliance and Security challenge the process and the results of the assessments, and they advise on necessary supplementary controls. The RCSA cycle is an annual cycle.

BNG Bank registers all operational incidents with a potential impact of EUR 5,000 or higher. To this end, employees are obliged to report all operational incidents to the Risk Management department. Remedial actions directly related to the incident are the responsibility of the first line. Additionally, the Risk Management department conducts an assessment in order to determine whether the prevention of future similar incidents will require any adjustments to the process, systems or working methods. Every quarter, the Risk Management department reports to the Executive Board and senior management on incidents with a possible impact from EUR 10,000 upwards. It also provides annual reports on incidents involving a loss of more than EUR 100,000 to the Executive Board and the Supervisory Board's Risk Committee. For 2019, the Incidents Report contains no incidents with an impact in excess of EUR 100,000. The impact of operational incidents on the bank's annual results in 2019 was limited. Incidents which pose a serious threat to the ethical conduct of the business and incidents concerning serious data leakage must be reported to the ECB, while serious leakage of personal data must be reported to the Dutch Data Protection Authority (Autoriteit Persoonsgegevens or AP). In 2019, there were no reports to ECB and one incident is reported to the AP. The number and impact of operational incidents are stable and are on an acceptable level.

The risk appetite of the bank is updated on an annual basis and cascaded to the different risk types. For operational risk especially the components profitability and reputation and brand are relevant. These are cascaded to a risk tolerance statement for operational risk. The exposure is measured against the risk tolerance in key risk indicators (KRI) as a limit, target or information figure. The KRI's cover all categories of operational risk. The result is reported as part of the quarterly Risk Report to the Executive Board and the Supervisory Board. Apart from the KRI's the Risk Management Department offers an opinion on key non-financial risk.

A scenario analysis on operational risk is performed on an annual basis. Scenarios are identified within the categories and subcategories of operational risk as well as within the event types defined in legislation and reporting requirements. With these scenarios, the economic capital allocation for operational risk is underpinned.

Process risk

Internal processes are designed by process owners in association with the managers of the involved departments. Risk Management is responsible for the documentation of processes, thereby challenging the first line of defence on adequate mitigation of operational risks. All repetitive processes are documented in process flows with triggers, actors, activities, used systems, documents and results.

People risk

People are an important asset. Adequate staffing is part of the annual planning and control cycle. Managers are responsible for human relations management within their department, supported by the Human Relations Management department. BNG Bank supports the employees' knowledge, expertise and agility by supporting education and coaching. Employees are facilitated to keep their mental and physical health.

Operational risk has a soft component, also referred to as 'culture'. BNG Bank is convinced of the importance of this component. To improve risk awareness, a broad representation of the organisation is involved in various operational risk management activities and operational risk is regularly discussed. The assurance of the integrity of people is discussed in the section on Integrity risk.

Key person risk is monitored and mitigated.

ICT risk

The bank's information strategy aims to develop and maintain information systems that allow the bank to continue executing its strategy successfully. The information strategy is reviewed on an annual basis, based on the business objectives and external developments.

The Architecture Advice Group (AAG) is a multidisciplinary team which advises the Management Board on information architecture policies and which assesses plans as well as instructions against internal policies. Security and operational risk in general are important issues in the AAG.

The management of ICT risk is based on the application of preventive rather than remedial measures. These measures are aimed at preventing potential or actual incidents, or detecting them at the earliest possible opportunity, and preventing potential damage or restoring the desired situation as quickly as possible.

An important goal in the ICT architecture is to create a common data source, the central data warehouse, for analysis and reporting. The reconciliation of data and reports is incorporated. The development and maintenance of a central data warehouse still requires a large amount of ICT capacity and will continue to do so in the next few years.

The agile methodology has been adopted for carrying out projects. A team consisting of analysts, developers and representatives from the business departments are working together in close collaboration to achieve the desired result. The 'product owner' has the deciding vote on the priorities of the items that the team delivers, taking into account the interests of all stakeholders. All projects are initiated and managed via a project portfolio. Many changes in systems are prompted by changing laws and regulations.

ICT availability and continuity risk

BNG Bank has outsourced the ICT infrastructure and technical support to Centric. Centric is an important partner in the control of the availability and continuity risk. For each application, clear arrangements are in place with respect to the availability and loss of data. For monitoring, see the section on outsourcing risk. In order to guarantee the continuity of ICT support within the bank, a yearly fall-back test is conducted. As in previous years, the 2019 test demonstrated that the bank's backup systems are adequately equipped to ensure that services continue as normal in the event of a calamity. For cloud services, before a service is purchased, an assessment is made whether the service meets the requirements for availability (among other things).

ICT security risk

To control the security risk, Centric also has an important role in the implementation of security measures such as multi-factor authentication or patch management. The systems are frequently tested for vulnerabilities to hacking.

Awareness of employees to security threats is an important control measure. All bank employees received information security training in 2019 in the form of interactive information sessions and e-learning. There were no major information security incidents in 2019. Security is an important aspect of the risk assessment performed for cloud services. The requirements for security measures depend on the type of information stored or processed (confidentiality and integrity).

ICT change risk
To remain focused on the most important projects, all the intended projects are prioritised and selected for execution by the Management Board.

Every change is thoroughly tested before implementation. Change control, with a separation of the development, test and production environments, further mitigates the change risk. Where possible, additional automated code review and testing as well as automated deployment are practised.

Data quality risk
As data quality is the basis for reliable business operations and management information, it is a subject of discussion at board level within the bank. In operational processes as well as in projects, departments cooperate on improving data quality. Data Owners are accountable for the data and the quality of data within their domain. The Data and Information Management department advises on subjects regarding data and facilitates automated data quality monitoring. With the development of the central data warehouse, the possibilities of data reconciliation and data lineage are increased. The implementation of Master Data Management processes provides a common point of reference for data on financial products as well as contact data.

Outsourcing risk
BNG Bank's most important outsourcing contract relates to the processing of the payment transactions, as well as a large portion of the bank's further ICT activities to Centric. Apart from payment services, this outsourcing includes the current account administration, the computing centre and workstation management. BNG Bank manages the activities performed by Centric via Service Level Agreements (SLAs) and the bank's internal demand organisation. BNG Bank regularly monitors and evaluates the service provider's services. The ISAE 3402 type II statement annually issued by Centric is part of this procedure. The IAD's periodical audits of Centric provide additional assurance. The bank also structurally monitors the financial situation of Centric and draws up contingency plans. Other services such as the management of the building and installations, catering, cleaning and landscaping have also been outsourced, with satisfactory results.

Cloud computing is becoming more and more common practice. BNG Bank is treating cloud computing as a way of outsourcing and performs a thorough risk analysis as part of the outsourcing decision. The classification and ultimate destination of the data as well as the characteristics of the outsourcing party and the application are important factors in the decision. Based on the policies regarding information security, outsourcing, cloud computing and architecture, the decision to allow a cloud application is made by the Architecture Advice Group described under ICT Risk above.

Compliance risk
The Compliance department is responsible for independent compliance monitoring of all applicable laws and regulations. It also has the role and responsibility to challenge, report and provide advise on compliance issues to the Executive Board and Supervisory Board.

Integrity risk

The risk of internal and external fraud is evaluated periodically, while mitigating controls are in place in processes as well as in automated systems. New staff are assessed on their integrity, irrespective of whether it concerns permanent staff or temporarily hired staff. The importance of integrity is highlighted among all staff on a regular basis. All employees have individually taken the banker's oath and endorsed the disciplinary regulations for banks. When employees take the oath, the importance of ethical conduct is discussed. The bank also expects its clients and other contacts to adhere to ethical standards and not to jeopardise the bank's reputation. The bank has policies in place which are used as a basis for assessing new and existing clients and contacts. The risk of fraud and money laundering is assessed, while clients, contacts and counterparties are checked against international sanction lists. Client payment transactions are monitored. In cooperation with first line departments the Compliance department periodically carries out a systematic integrity risk analysis and did not detect any major integrity issues in 2019. The bank has whistle-blower arrangements in place that enable staff to report irregularities without fear for their position. No irregularities were reported in 2019.

Conduct risk

The BNG Bank Code of Conduct is published on the website and states the bank's core values: reliable, sustainable and professional. The Code of Conduct serves as a guideline for all actions undertaken by BNG Bank and its employees. The bank carries out a product approval and review process (PARP) to ensure that its products serve the interests of its clients and its investors and that they do not involve any unacceptable risks for the clients, the investors or the bank itself. The bank places value on acting with due care towards clients and other stakeholders over an exclusive focus on financial profit or other self-interests.

Legal risk

For managing legal contract risk, the bank has a Legal Affairs and Tax department (JFZ), whose tasks and responsibilities include drafting legally sound arrangements with clients and other parties. To this end, standard contracts and provisions have been drawn up, which are managed in an internal model contract library. Any deviation from these standard contracts is coordinated by the JFZ.

The bank has automated the administration of contractual provisions in agreements with clients, with the aim to standardise the conditions and provisions as much as possible. The internal model contract library is aligned with the contract administration and is subject to continuous further development and updating. This guarantees the enforceability of contractual agreements as much as possible, while the standardisation of conditions will result in an operational process that involves as little manual intervention as possible.

Where applicable, the JFZ department seeks external assistance; for example, in the event of complex (often syndicated) transactions and in cases requiring specialist legal knowledge.

As at year end 2019, BNG Bank was not involved in any material legal proceedings.

Strategic risk

Definitions

Strategic risk is defined as the risk that strategic decisions of the institution itself could result in losses and/or the chance of losses as a result of changes beyond the control of the institution or group in the area of the bank's competitive position, the political climate, regulatory developments, reputation and business climate. In addition to general strategic risks, the following aspects can be identified:

- Reputation risk is the risk that the institution's market position will deteriorate due to a negative perception of its image among stakeholders.
- Political risk is the risk that the institution's competitive and market position will be influenced by the political climate and stakeholder influence.
- Regulatory risk is the risk that developments in regulatory requirements will materially impact the business model and the complexity of operations.
- Sustainability risk is the risk that the institution's business model, returns or competitive/market position will be influenced by factors related to ecology and social transitions.
- Business climate is the likelihood of losses due to environmental changes in terms of the economy, stock exchange climate, wage and/or purchasing power developments, broader society and technology, as well as by the activities, actions and/or decisions of new or existing competitors.

Governance

Strategic risks are driven by external factors in particular. They are closely interlinked with the strategic elements in the business plan. In addition, they interlink with other risk types (e.g. operational risks can reach a dimension in which they can have a serious effect on the reputation of BNG Bank or, conversely, a changing business climate causes changes in the credit risk or interest rate risk profile of BNG Bank). For this reason, strategic risk has no dedicated general policy of its own. Instead, strategic risks are incorporated in the Annual Plan of BNG Bank and the business plans of the individual departments. They are incorporated in the stress-testing programme and are also addressed in the Capital Management Plan (as part of the ICAAP). Decisions on strategic risk are the responsibility of the Executive Board, although discussions generally also take place in Management Board or ALCO meetings, depending on the nature of the strategic risk. The monitoring of measures and actions to mitigate strategic risk is part of the planning and budget cycle.

Developments

Strategic risks are driven by the external environment of the bank, which is evolving continuously. In meetings with stakeholders, these developments are discussed and evaluated. Key strategic risks identified are the interconnectedness risks of disintermediation, platform developments and digitisation. To ensure completion of the strategic objectives, the bank has appointed a Head of Strategy to further structure and drive its strategic planning and execution process.

The Dutch Energy transition, deeper integration of the euro area banking system and platforms created by technology firms or financial competitors are key trends that BNG Bank considers to have an impact on its business model. The bank assessed its business model and concluded that there is no necessity to be a technological frontrunner. Although pricing and availability of services are key competitive advantages of BNG Bank, in the current digital era, the bank cannot afford its digital service offering to become a client dissatifier. Therefore, BNG Bank has started in 2019 to build a digital foundation that will allow the bank to extend its digital services over time. These services will initially be made available to the public sector entities. This platform creates opportunities for the bank to expand its digital offering in the future.

As an organisation with a sizeable balance sheet but a small business operations, changing client demands as well as increasing regulatory pressure force the bank to move from a stable organisation to an organisation that is both stable and capable to adapt to continuous change in its business environment. As a result, the bank has put efforts to improve both the quality of its key processes as well as the documentation of corresponding governance. These developments have an impact on sourcing decisions and corresponding staff requirements. In 2019, instruments to create incentives for job rotation, internships and task rotation within or between departments were enhanced. Executing the strategic Human Resources Policy became more prominent on the agenda in 2019. Inflow, outflow and through flow are key elements in this policy, next to elements such as diversity and key personnel risk.

Reputation risk

As a bank of and for the public sector, it is of vital importance that the products and services which we provide to our clients support their role in the Dutch public sector. This is reflected not only in the bank offering the products that its clients ask for, but especially in a certain reticence if it is not sufficiently clear that a particular product is in the clients' interest. The bank will stress this when it receives requests for financing arrangements which it considers unsuitable for the client concerned. This applies in particular to smaller organisations of which the bank has reason to believe that they lack the in-house expertise to manage the risks of the product in question. This is factored into the bank's product approval process, in which product templates are used to address explicitly the type of client that the product is suitable for as well as the risks and limitations of the product for both client and bank.

Reputation risk also applies to the bank's other stakeholders, such as investors and shareholders. It often arises as a consequential risk if other risks are not properly controlled. As a result, it makes up an integral part of all aspects of the bank's risk policy. Mitigation of the various risks therefore indirectly safeguards the bank's reputation. To provide its clients with innovative forms of lending, a short time to market is desirable from a strategic as well as a commercial perspective. However, insufficient care during implementation can lead to problems that could harm the bank's reputation. Instruments to manage reputation risk include stakeholders dialogues to align expectations.

The increased enforcement in connection to Anti-Money Laundering and Counter Terrorist Financing (AML & CTF) rules and regulations has put this topic higher in the top on the priority list of banks. Based on the bank's own '*Systematische Integriteitsrisico Analyse*' (SIRA), these risks are deemed lower compared to other banking groups, due to its specific services and customer base. However, preserving our excellent reputation, in the light of increased expectations from society, the bank decided to further enhance its Customer Due Diligence (CDD) and transaction monitoring processes. In addition to the improvement of the gatekeeper's function, we have recently enhanced our processes to embed our internal requirements in relation to human rights and sustainability. Since reputation risk is included in the risk appetite of the bank, it is also part of the associated monitoring.

Political risk

At BNG Bank, business climate and political risk are closely linked, because public authorities are both shareholders and clients. As a result, the bank's dependence on political decisions is high. This is especially the case for decisions that impact regulations for client sectors which represent significant portions of the bank's balance sheet, such as housing or healthcare. The financial impact of the energy transition as part of the change towards a sustainable society that is being planned by the government and its social partners is yet unclear. Over the following years, it may have significant impact on the financing needs of the housing sector, both in terms of volume and type of funding. Moreover, improving the sustainability of municipal property will impact the credit demand by local government. In case of government support for the energy transition by means of guarantee programmes or otherwise, new opportunities could arise for the bank.

With regard to stakeholder influence, meeting the financing requirements of public authorities is essential for BNG Bank. At the same time, BNG Bank has independently committed to several sustainability initiatives. There is a political risk of misalignment between the product demands from public authorities and the above mentioned commitments. To control this risk, the bank's Sustainability Committee has made steps towards setting up a monitoring framework.

Regulatory risk

Regulations are still subject to continuous changes, mostly aimed at improving the safety of banks and often resulting in higher capital requirements or a need to strengthen governance. The bank is specifically exposed to potential changes in solvency requirements based on notional amounts, since most of its assets are zero-risk-weighted. A non-zero risk weight for these exposures could have an unfavourable impact on the bank's capital. In addition, concentration limits on government exposures would be an obvious threat to the bank's business model. In 2019 the Single Resolution Board (SRB) announced that simplified obligations apply to BNG Bank. This means that the preferred resolution strategy is normal insolvency law. No explicit MREL[3] has been included in the decision.

Regulations tend to be increasingly rule-based instead of principle-based. In terms of supervision, BNG Bank is considered a large bank because of the size of its balance sheet. As a result, the governance of the bank is further enhanced to incorporate the more stringent requirements into its policies and procedures. In 2019, the bank maintained the overarching

[3] Minimum Requirement for own funds and Eligible Liabilities

description of its Risk Governance and it contains, amongst others, policies regarding model risk and product approval, while the relation to e.g. ICAAP/ILAAP and recovery planning was explained. An extension to a more generic description on its Internal Governance was introduced, for example containing the governance of the ICAAP and the CMF. The implementation of the CMF required significant efforts and resources in 2019. This framework will be further embedded into the organisation in 2020. In addition, stress testing remains high on the agenda for 2020.

All these developments require additional resources. The bank has reprioritised its focus to increase efforts on meeting supervisory requirements at the expense of its other priorities, such as product development and digitisation. Meeting current regulatory demands and anticipating to future regulatory developments means additional costs are foreseen for 2020.

Sustainability risk

The Dutch energy transition is expected to have impact on the business model of the bank. If the government decides to finance the changes towards a sustainable society with government support, new opportunities could arise for the bank. However, if they decide in favour of less government involvement, the role of BNG Bank will be less prominent. As a consequence, the contribution of the bank will be limited.

Changes in clean technology and public opinions can adversely impact the business models of our clients and the value of their assets. If not managed properly, this could lower their credit ratings which result in a higher risk for the bank from this strategic theme.

In 2020, BNG Bank will further incorporates environmental, social and governance (ESG) factors into the metrics of the credit risk profiles of our existing clients and future prospects. BNG Bank proactively aims to increase the share within its non-zero weighted lendings in accordance with the UN definition of sustainability (People, Planet, Profit). Another aspect of BNG Bank's green strategy is to report on the CO_2 emission of the entire portfolio with the aim to present a roadmap to reduction in 2022. Several agencies disclose and benchmark the sustainability actions BNG Bank is performing.

As a committed partner for a more sustainable society in 2020, the accommodation as well as the lease cars will be evaluated in order to reduce the CO_2 footprint.

Business climate

BNG Bank's market, the Dutch public sector, is less vulnerable to economic trends than most sectors of the financial markets. The market segments in which BNG Bank operates are characterised by relatively low margins. Although non-financial institutions may have regulatory advantages or may not be regulated at all, it is not very likely that institutions striving to maximise their profits will enter these market segments on a large scale because of the relatively low margins. In addition, it is a challenge to keep operational costs of servicing a loan portfolio acceptable without a certain scale. Efficiency and scale are key to a profitable business model in this low-margin sector. However, institutional parties such as pension funds and insurers do enter the public-sector market on an irregular basis.

The ongoing low interest rate environment is putting pressure on the earnings of the bank. The return on equity is not only influenced by this downward pressure on earnings but also by growing equity as a result of post-crisis regulation. Since BNG Bank's shareholders are first and foremost interested in low credit pricing, the return on equity is of lesser importance. In addition, the required return for the bank is a function of the general interest rate, compensating the effect of the development in the interest rate level.

As a committed partner for a more sustainable society, BNG Bank is dependent on changing public opinion. Banks are expected to show good Environmental Social Governance (ESG) risk management throughout the supply chain, not just with regard to their own financial relationships. Shifts in public opinion on sustainability are increasingly impacting stakeholder expectations. To be able to balance the requirement for a long-term vision with timely responses to these shifts, the bank continues its integrated approach to sector management and sustainability policies.

Scope of application (article 436 CRR)

The requirements of the CRR apply to BNG Bank. BNG Bank has two subsidiaries that operate in support of the bank's core business activity. There is no difference in scope of consolidation for accounting and prudential purposes for BNG Bank. Each year, BNG Bank prepares consolidated financial statements for the parent company and its subsidiaries. The financial statements of the parent company and its subsidiaries, which are used to prepare the consolidated financial statements, are drawn up at the same reporting date and are based on uniform principles. All intra-group transactions and balances, including income, expenses and dividends, have been fully eliminated in the consolidated financial statements. The consolidated financial statements comprise the following subsidiaries over which BNG Bank has control:

- *BNG Gebiedsontwikkeling* directly or indirectly provides venture capital or other capital to public authorities and directly or indirectly participates in and/or cooperate with projects, either with or on behalf of public authorities or institutions affiliated with public authorities.
- *Hypotheekfonds voor Overheidspersoneel* finances mortgage loans for civil servants employed by an affiliated public or semi-public institution with which a cooperation agreement has been reached.

Differences between accounting and regulatory scopes of consolidation and mapping of financial categories to regulatory risk categories (EU LI1)

						31/12/2019
	CARRYING VALUES OF ITEMS					
	CARRYING VALUES AS REPORTED IN PUBLISHED FINANCIAL STATEMENTS AND FOR REGULATORY CONSOLIDATION	SUBJECT TO CREDIT RISK FRAMEWORK	SUBJECT TO COUNTERPARTY CREDIT RISK FRAMEWORK	SUBJECT TO SECURITISATION FRAMEWORK	SUBJECT TO MARKET RISK FRAMEWORK	NOT SUBJECT TO CAPITAL REQUIREMENTS OR SUBJECT TO DEDUCTION OF CAPITAL
Assets						
Cash and balances with the central bank	1,272	1,272	-	-	-	-
Amounts due from banks	66	66	-	-	57	-
Cash collateral posted	14,643	2	14,640	-	-	-
Financial assets at FVTPL	1,764	1,764	-	-	1,015	-
Derivatives (assets)	10,004	-	10,004	-	4,230	-
Financial assets at FVOCI	9,222	9,222	-	-	23	-
Interest-bearing securities at AC	7,764	2,708	-	5,056	709	-
Loans and advances	88,279	88,279	-	-	105	-
Value adjustments on loans involved in portfolio hedge accounting	16,462	16,462	-	-	-	-
Participating interests	35	35	-	-	-	-
Property and equipment	18	18	-	-	-	-
Current tax assets	30	30	-	-	-	-
Other assets	130	130	-	-	0	-
Total assets	**149,689**	**119,988**	**24,644**	**5,056**	**6,139**	**-**
Liabilities						
Amounts due to banks	1,933	-	-	-	1,378	556
Cash collateral received	1,137	-	1,137	-	-	0
Financial liabilities at FVTPL	674	-	-	-	636	38
Derivatives (liabilities)	22,651	-	22,651	-	1,390	-
Debt securities issued	112,661	-	-	-	52,106	60,555
Funds entrusted	5,575	-	-	-	1,995	3,580
Subordinated debts	33	-	-	-	-	33
Current tax liabilities	-	-	-	-	-	-
Deferred tax liabilities	78	-	-	-	-	78
Other liabilities	60	-	-	-	-	60
Total Liabilities	**144,802**	**-**	**23,788**	**-**	**57,505**	**64,900**

						31/12/2018
		CARRYING VALUES OF ITEMS				
	CARRYING VALUES AS REPORTED IN PUBLISHED FINANCIAL STATEMENTS AND FOR REGULATORY CONSOLIDATION	SUBJECT TO CREDIT RISK FRAMEWORK	SUBJECT TO COUNTERPARTY CREDIT RISK FRAMEWORK	SUBJECT TO SECURITISATION FRAMEWORK	SUBJECT TO MARKET RISK FRAMEWORK	NOT SUBJECT TO CAPITAL REQUIREMENTS OR SUBJECT TO DEDUCTION OF CAPITAL
Assets						
Cash and balances with the central bank	1,587	1,587	-	-	-	-
Amounts due from banks	82	82	-	-	73	-
Cash collateral posted	12,043	3	12,040	-	-	-
Financial assets at FVTPL	1,606	1,606	-	-	906	-
Derivatives (assets)	8,390	-	8,390	-	3,276	-
Financial assets at FVOCI	9,648	9,648	-	-	22	-
Interest-bearing securities at AC	7,406	2,455	-	4,940	644	10
Loans and advances	85,034	85,034	-	-	102	-
Value adjustments on loans involved in portfolio hedge accounting	11,566	11,566	-	-	-	-
Participating interests	44	44	-	-	-	-
Property and equipment	17	14	-	-	-	3
Current tax assets	7	7	-	-	-	-
Other assets	79	79	-	-	1	-
Total assets	**137,509**	**112,125**	**20,430**	**4,940**	**5,024**	**13**
Liabilities						
Amounts due to banks	2,383	-	-	-	1,838	545
Cash collateral received	419	-	419	-	-	-
Financial liabilities at FVTPL	762	-	-	-	656	106
Derivatives (liabilities)	19,223	-	19,223	-	2,225	-
Debt securities issued	103,722	-	-	-	46,804	56,918
Funds entrusted	5,800	-	-	-	2,090	3,710
Subordinated debts	32	-	-	-	-	32
Deferred tax liabilities	99	-	-	-	-	99
Other liabilities	78	-	-	-	-	78
Total Liabilities	**132,518**	**-**	**19,642**	**-**	**53,613**	**61,488**

Main sources of differences between regulatory exposure amounts and carrying values (EU LI2)

					31/12/2019
		ITEMS SUBJECT TO			
	TOTAL	CREDIT RISK FRAMEWORK	COUNTERPARTY CREDIT RISK FRAMEWORK	SECURITISATION FRAMEWORK	MARKET RISK FRAMEWORK
Asset carrying value amount under scope of regulatory consolidation (as per template LI1)	**155,827**	119,988	24,644	5,056	6,139
Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	**81,293**	–	23,788	–	57,505
Total net amount under regulatory scope of consolidation	**74,534**	**119,988**	**856**	**5,056**	**-51,366**
Off-balance sheet amounts before CCF after provisions	**10,969**	10,803	-	166	-
Differences due to application of the overall net FX position	**51,366**	-	-	-	51,366
Differences due to application of Mark-to-Market Method and contractual netting for CCR	**2,857**	-	2,857	-	-
Differences between financial statements and exposure value due to valuation and netting	**-53**	65	-	–118	-
Exposure amounts considered for regulatory purposes	**139,673**	**130,856**	**3,713**	**5,104**	**-**

					31/12/2018
		ITEMS SUBJECT TO			
	TOTAL	CREDIT RISK FRAMEWORK	COUNTERPARTY CREDIT RISK FRAMEWORK	SECURITISATION FRAMEWORK	MARKET RISK FRAMEWORK
Asset carrying value amount under scope of regulatory consolidation (as per template LI1)	**137,496**	112,126	20,430	4,940	5,024
Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	**71,029**	-	19,642	-	53,613
Total net amount under regulatory scope of consolidation	**66,467**	**112,126**	**788**	**4,940**	**-48,589**
Off-balance sheet amounts before CCF after provisions	**13,713**	13,506	-	198	-
Differences due to application of the overall net FX position	**48,496**	-	-	-	48,496
Differences due to application of Mark-to-Market method and contractual netting for CCR	**2,267**	-	2,267	-	-
Differences between financial statements and exposure value due to valuation and netting	**147**	147	-	-	-
Exposure amounts considered for regulatory purposes	**133,880**	**125,779**	**3,055**	**5,138**	**-93**

Explanation of differences between accounting and regulatory exposure (EU LIA)

The consolidation scope for the purpose of calculating Regulatory Capital is equal to the consolidation scope under IFRS. The main differences between the carrying value of assets under the scope of regulatory consolidation and the exposure amounts considered for regulatory purposes can be explained by the inclusion of the off-balance sheet liabilities in the exposure amounts for regulatory purposes, the exclusion of items that are capital deducted, and the different valuation of derivatives due to netting rules and collateral. The market risk framework for regulatory purposes for BNG Bank consists only of the standardised approach for foreign exchange risk. In Table LI1, the column for the market risk framework shows all transactions with a foreign currency component. After eliminating the transactions denominated in euros, the short position for year-end 2019 is nil. As per year-end 2018 the amount was minor (Table LI2).

Outline of the differences in the scopes of consolidation (EU LI3)

NAME OF THE ENTITY	METHOD OF ACCOUNTING CONSOLIDATION	METHOD OF REGULATORY CONSOLIDATION				DESCRIPTION OF THE ENTITY
		FULLY CONSOLIDATED	PROPORTIONAL CONSOLIDATED	NEITHER CONSOLIDATED NOR DEDUCTED	DEDUCTED	
BNG Gebieds-ontwikkeling BV	Fully consolidated	x				Directly or indirectly provides venture capital or other capital to public authorities and directly or indirectly participates in and/or cooperate with projects, either with or on behalf of public authorities or institutions affiliated with public authorities.
Hypotheek-fonds voor Overheidspersoneel BV (HvO)	Fully consolidated	x				Finances mortgage loans taken out by civil servants in the employ of an affiliated public or semi-public institution with which a cooperation agreement has been reached.

Own funds (article 437 CRR)

Balance sheet reconciliation

BNG Bank's capitalisation is well above the fully-loaded capital requirements laid down in the Capital Requirements Directive IV (CRD IV). The capital structure consists mainly of common equity. The other part consists of additional Tier 1 instruments.

Share capital

The authorised capital is divided into 100 million shares with a nominal value of EUR 2.50 each, of which 55,690,720 shares have been issued and fully paid up. The number of shares in circulation remained unchanged during the financial year. There are no issued shares that are not fully paid up. BNG Bank and its subsidiaries hold no company shares. None of the shares carry preferential rights, nor are they subject to restrictions. There are no options that can be exercised to obtain entitlement to the issuance of shares.

Equity attributable to the shareholders includes reserves which consist of a revaluation reserve, the cash flow hedge reserve, a reserve for fair value increases as well as retained earnings from previous years. This equity amounts to EUR 4,154 million at end of 2019 and a full breakdown is included in the annual report (pp. 152-154).

Hybrid capital

The bank's hybrid capital amounts to EUR 733 million. In 2019 no additional hybrid capital was issued. Hybrid capital concerns perpetual loans involving an annual non-cumulative discretionary payment on the outstanding principal amount, subject to compulsory amortisation in the event that the CET1 ratio falls below 5.125%. The payment qualifies as dividend under IFRS and is charged to the Other reserves.

The instrument is structured in line with CRR requirements and the EBA guidelines and qualifies as additional Tier 1 capital. BNG Bank has the unilateral contractual option of repaying the perpetual capital instruments prematurely on the sixth coupon due date (in May 2021 and 2022) and subsequently every year on the coupon due date.

The tables below show the structure of the regulatory capital.

		31/12/2019
	CAPITAL	IFRS EQUITY
Paid-up capital	139	139
Share premium	6	6
Retained earnings from previous years	3,567	3,567
Unappropriated profit		163
Accumulated other comprehensive income		
– Cash flow hedge reserve	13	13
– Cost of hedging	174	174
– Own credit adjustment	8	8
– Revaluation reserve	84	84
Common equity Tier 1 (CET1) capital before regulatory adjustments	**3,991**	**4,154**
Adjustments to CET1 capital as a result of prudential filters:		
– Cash flow hedge reserve	-13	
– Cumulative gains and losses arising from the bank's own credit risk related to derivatives liabilities	-1	
– Own credit risk for Financial liabilities at fair value through the income statement	-8	
– Value adjustments due to the prudential valuation requirements	-5	
– Intangible assets	-4	
– Expected credit loss allowance of Financial assets at fair value through OCI	-1	
Deduction of capital for securitisation positions eligible as alternatives for a risk weight of 1250%	-	
CET1 capital	**3,959**	
Additional Tier 1 capital:	733	733
Tier 1 capital	**4,692**	
Total equity		**4,887**

	31/12/2018	
	CAPITAL FULLY PHASED IN	IFRS EQUITY
Paid-up capital	139	139
Share premium	6	6
Retained earnings from previous years	3,410	3,410
Unappropriated profit		337
Accumulated other comprehensive income		
– Cash flow hedge reserve	10	10
– Cost of hedging	222	222
– Own credit adjustment	9	9
– Revaluation reserve	125	125
Common equity Tier 1 (CET1) capital before regulatory adjustments	**3,921**	**4,258**
Adjustments to CET1 capital as a result of prudential filters:		
– Cash flow hedge reserve	-10	
– Cumulative gains and losses arising from the bank's own credit risk related to derivatives liabilities	-2	
– Own credit risk for Financial liabilities at fair value through the income statement	-9	
– Value adjustments due to the prudential valuation requirements	-5	
– Intangible assets	-3	
– Expected credit loss allowance of Financial assets at fair value through OCI	-1	
Deduction of capital for securitisation positions eligible as alternatives for a risk weight of 1250%	-10	
CET1 capital	**3,881**	
Additional Tier 1 capital:	733	733
Tier 1 capital	**4,614**	
Total equity		**4,991**

Prudential filters

BNG Bank applies, in line with the Capital Requirements Regulations, the following prudential filters to the CET1 capital:

- The cash flow hedge reserve is eliminated.
- The benefits arising from own credit risk (DVA) in derivatives transactions are eliminated.
- The benefits arising from 'own credit risk' in relation to obligations classified as Financial liabilities at fair value through the income statement are eliminated.
- Due to the regulations on prudent valuation, an adjustment is calculated in relation to the balance sheet valuation of assets and liabilities that are carried at fair value.
- The investments in the development of software is activated and amortised over three years. After a correction for 'deferred tax', the total of these intangible assets is deducted.

- The expected credit loss allowance of Financial assets at fair value through OCI.

Deductible items

For 2018 BNG Bank opted to reduce the CET1 capital by two securitisation positions that were eligible for 1250% solvency weighting. In 2019 BNG Bank does not have any positions with a 1250% solvency weighting.

Capital instruments' main features template

BNG Bank N.V.				
1	Issuer	BNG Bank N.V.	BNG Bank N.V.	BNG Bank N.V.
2	Unique identifier (eg CUSIP, ISIN or Bloomberg identifier for private placement)		XS1311037433	XS1453520378
3	Governing law(s) of the instrument	Laws of the Netherlands	Laws of the Netherlands	Laws of the Netherlands
Regulatory treatment				
4	Transitional CRR rules	Common Equity Tier 1	Additional Tier 1	Additional Tier 1
5	Post-transitional CRR rules	Common Equity Tier 1	Additional Tier 1	Additional Tier 1
6	Eligible at solo / (sub-)consolidated / solo&(sub-)consolidated	Solo & (sub-)consolidated	Solo & (sub-)consolidated	Solo & (sub-)consolidated
7	Instrument type (types to be specified by each jurisdiction)	Ordinary share	Perpetual Capital Security	Perpetual Capital Security
8	Amount recognised in regulatory capital (Currency in million, as of most recent reporting date).	EUR 145	EUR 424	EUR 309
9	Nominal amount of instrument	EUR 139	EUR 424	EUR 309
9a	Issue price	n/a	100% for 1st tranche at 16/11/2015 (a 2nd tranche was issued on 15/12/2015 on the same terms with a price of 100.61%)	100% for 1st tranche at 28/07/2016 (two follow-up tranches were issued in second half of 2016 on same terms at 100.34% and 99.72% respectively)
9b	Redemption price	n/a	Subject to write down	Subject to write down
10	Accounting classification	Shareholders'equity	Equity	Equity
11	Original date of issuance	23 December 1914	16 November 2015	28 July 2016
12	Perpetual or dated	Perpetual	Perpetual	Perpetual
13	Original maturity date	no maturity	no maturity	no maturity
14	Issuer call subject to prior supervisory approval	No	Yes	Yes

Continued on next page

Continuation of previous page

BNG Bank N.V.			
15 Optional call date, contingent call dates, and redemption amount	n/a	16 May 2021 and every interest payment date thereafter, Tax and/or regulatory event call, Redemption at prevailing principal amount	16 May 2022 and every interest payment date thereafter, Tax and/or regulatory event call, Redemption at prevailing principal amount
16 Subsequent call dates, if applicable	n/a	Interest payment date (16 May)	Interest payment date (16 May)
Coupons / dividends			
17 Fixed or floating dividend/coupon	Floating	Fixed	Fixed
18 Coupon rate and any related index	n/a	3.622%, resettable on 16 May 2021 and every 5 years afterwards equal to prevailing 5-year Mid-Swap Rate plus initial margin	3.277%, resettable on 16 May 2022 and every 5 years afterwards equal to prevailing 5-year Mid-Swap Rate plus initial margin
19 Existence of a dividend stopper	n/a	n/a	n/a
20a Fully discretionary, partially discretionary or mandatory (in terms of timing)	Mandatory	Mandatory	Mandatory
20b Fully discretionary, partially discretionary or mandatory (in terms of amount)	Fully discretionary	Fully discretionary	Fully discretionary
21 Existence of step up or other incentive to redeem	n/a	No	No
22 Noncumulative or cumulative	Noncumulative	Noncumulative	Noncumulative
23 Convertible or non-convertible	Nonconvertible	Nonconvertible	Nonconvertible
24 If convertible, conversion trigger(s)	n/a	n/a	n/a
25 If convertible, fully or partially	n/a	n/a	n/a
26 If convertible, conversion rate	n/a	n/a	n/a
27 If convertible, mandatory or optional conversion	n/a	n/a	n/a
28 If convertible, specify instrument type convertible into	n/a	n/a	n/a
29 If convertible, specify issuer of instrument it converts into	n/a	n/a	n/a
30 Write-down features	No	Yes	Yes
31 If write-down, write-down trigger(s)	n/a	CET1 ratio < 5.125%	CET1 ratio < 5.125%
32 If write-down, fully or partially	n/a	Partially	Partially
33 If write-down, permanent or temporary	n/a	Temporary	Temporary
34 If temporary write-down, description of write-up mechanism	n/a	Pro rata with other Discretionary	Pro rata with other Discretionary

Continued on next page

Continuation of previous page

BNG Bank N.V.				
			Temporary Write-down Instruments, subject to MDA and Maximum Write-up Amount	Temporary Write-down Instruments, subject to MDA and Maximum Write-up Amount
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	Additional Tier 1 instruments	Tier 2 instruments	Tier 2 instruments
36	Non-compliant transitioned features	No	No	No
37	If yes, specify non-compliant features			

Own funds disclosure template

		(A) AMOUNT AT 31/12/2019	(A) AMOUNT AT 31/12/2018	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
Common Equity Tier 1 capital: instruments and reserves				
1	Capital instruments and the related share premium accounts, of which:	145	145	26 (1), 27, 28, 29, EBA list 26 (3)
	– Ordinary shares	139	139	EBA list 26 (3)
	– Share premium	6	6	EBA list 26 (3)
	– Instrument type 3	-	-	EBA list 26 (3)
2	Retained earnings	3,567	3,410	26 (1) (c)
3	Accumulated other comprehensive income (and any other reserves)	279	366	26 (1)
3a	Funds for general banking risk	-	-	26 (1) (f)
4	Amount of qualifying items referred to in Article 484 (3) and the related share premium accounts subject to phase out from CET1	-	-	486 (2)
5	Minority interests (amount allowed in consolidated CET1)	-	-	84
5a	Independently reviewed interim profits net of any foreseeable charge or dividend	-	-	26 (2)
6	**Common Equity Tier 1 (CET1) capital before regulatory adjustments**	**3,991**	**3,921**	
Common Equity Tier 1 (CET1) capital: regulatory adjustments				
7	Additional value adjustments (negative amount)	–5	–5	34, 105
8	Intangible assets (net of related tax liability) (negative amount)	–3	–3	36 (1) (b), 37
9	Empty set in the EU	-	-	
10	Deferred tax assets that rely on future profitability excluding those arising from temporary difference (net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)	-	-	36 (1) (c), 38

Continued on next page

Continuation of previous page

		(A) AMOUNT AT 31/12/2019	(A) AMOUNT AT 31/12/2018	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
11	Fair value reserves related to gains or losses on cash flow hedges	–13	–10	33 (a)
12	Negative amounts resulting from the calculation of expected loss amounts	–1	–1	36 (1) (d), 40, 159
13	Any increase in equity that results from securitised assets (negative amount)	-	-	32 (1)
14	Gains or losses on liabilities valued at fair value resulting from changes in own credit standing	–9	–11	33 (1) (b) (c)
15	Defined-benefit pension fund assets (negative amount)	-	-	36 (1) (e), 41
16	Direct and indirect holdings by an institution of own CET1 instruments (negative amount)	-	-	36 (1) (f), 42
17	Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negatvie amount)	-	-	36 (1) (g), 44
18	Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	-	36 (1) (h), 43, 45, 46, 49 (2) (3), 79
19	Direct, indirect and synthetic holdings of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	-	36 (1) (i), 43, 45, 47, 48 (1) (b), 49 (1) to (3), 79
20	Empty set in the EU	-	-	
20a	Exposure amount of the following items which qualify for a RW of 1250%, where the institution opts for the deduction alternative, of which:	-	–10	36 (1) (k)
20b	– qualifying holdings outside the financial sector (negative amount)	-	-	36 (1) (k) (i), 89 to 91
20c	– securitisation positions (negative amount)	-	–10	36 (1) (k) (ii) 243 (1) (b) 244 (1) (b) 258
20d	of which: free deliveries (negative amount)	-	-	36 (1) (k) (iii), 379 (3)
21	Deferred tax assets arising from temporary difference (amount above 10 % threshold , net of related tax liability where the conditions in Article 38 (3) are met) (negative amount)	-	-	36 (1) (c), 38, 48 (1) (a)

Continued on next page

Continuation of previous page		(A) AMOUNT AT 31/12/2019	(A) AMOUNT AT 31/12/2018	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
22	Amount exceeding the 15% threshold (negative amount)	-	-	48 (1)
23	of which: direct and indirect holdings by the institution of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities	-	-	36 (1) (i), 48 (1) (b)
24	Empty set in the EU	-	-	
25	of which: deferred tax assets arising from temporary difference	-	-	36 (1) (c), 38, 48 (1) (a)
25a	Losses for the current financial year (negative amount)	-	-	36 (1) (a)
25b	Foreseeable tax charges relating to CET1 items (negative amount)	-	-	36 (1) (l)
26	Regulatory adjustments applied to Common Equity Tier 1 in respect of amounts subject to pre-CRR treatment	-	-	
26a	Regulatory adjustments relating to unrealised gains and losses pursuant to Articles 467 and 468	-	-	
27	Qualifying AT1 deductions that exceeds the AT1 capital of the institution (negative amount)	-	-	36 (1) (j)
28	**Total regulatory adjustments to Common Equity Tier 1 (CET1)**	**-32**	**-40**	
29	**Common Equity Tier 1 (CET1) capital**	**3,959**	**3,881**	
Additional Tier 1 (AT1) capital: instruments				
30	Capital instruments and the related share premium accounts, of which:	733	733	51, 52
31	– classified as equity under applicable accounting standards	733	733	
32	– classified as liabilities under applicable accounting standards	-	-	
33	Amount of qualifying items referred to in Article 484 (4) and the related share premium accounts subject to phase out from AT1	-	-	486 (3)
34	Qualifying Tier 1 capital included in consolidated AT1 capital (including minority interest not included in row 5) issued by subsidiaries and held by third parties	-	-	85, 86, 480
35	of which: instruments issued by subsidiaries subject to phase-out	-	-	486 (3)
36	**Additional Tier 1 (AT1) capital before regulatory adjustments**	**733**	**733**	
Additional Tier 1 (AT1) capital: regulatory adjustments				

Continued on next page

Continuation of previous page

		(A) AMOUNT AT 31/12/2019	(A) AMOUNT AT 31/12/2018	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
37	Direct and indirect holdings by an institution of own AT1 instruments (negative amount)	-	-	52 (1) (b), 56 (a), 57
38	Holdings of the AT1 instruments of financial sector entities where those entities have reciprocal cross holdings with the institution designed to inflate artificially the own funds of the institution (negative amount)	-	-	56 (b), 58
39	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution does not have a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	-	56 (c), 59, 60, 79
40	Direct, indirect and synthetic holdings of the AT1 instruments of financial sector entities where the institution has a significant investment in those entities (amount above 10% threshold and net of eligible short positions) (negative amount)	-	-	56 (d), 59, 79
41	Empty set in the EU	-	-	
42	Qualifying T2 deductions that exceed the T2 capital of the institution (negative amount)	-	-	56 (e)
43	**Total regulatory adjustments to Additional Tier 1 (AT1) capital**	**-**	**-**	
44	**Additional Tier 1 (AT1) capital**	**733**	**733**	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**4,692**	**4,614**	
	Tier 2 (T2) capital: instruments and provisions			
46	Capital instruments and the related share premium accounts	-	-	62, 63
47	Amount of qualifying items referred to in Article 484 (5) and the related share premium accounts subject to phase out from T2	-	-	486 (4)
48	Qualifying own funds instruments included in consolidated T2 capital (including minority interest and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third party	-	-	87, 88, 480
49	of which: instruments issued by subsidiaries subject to phase-out	-	-	486 (4)
50	Credit risk adjustments	-	-	62 (c) & (d)
51	**Tier 2 (T2) capital before regulatory adjustment**	**-**	**-**	

Continued on next page

Continuation of previous page

		(A) AMOUNT AT 31/12/2019	(A) AMOUNT AT 31/12/2018	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
Tier 2 (T2) capital: regulatory adjustments				
52	Direct and indirect holdings by an institution of own T2 instruments and subordinated loans (negative amount)	-	-	63 (b) (i), 66 (a), 67
53	Holdings of the T2 instruments and subordinated loans of financial sector entities where those entities have reciprocal cross holdings with the institutions designed to inflate artificially the own funds of the institution (negative amount)	-	-	66 (b), 68
54	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where the institution does not have a significant investment in those entities (amount above 10 % threshold and net of eligible short positions) (negative amount)	-	-	66 (c), 69, 70, 79
55	Direct, indirect and synthetic holdings of the T2 instruments and subordinated loans of financial sector entities where the institution has a significant investment in those entities (net of eligible short positions) (negative amounts)	-	-	66 (d), 69, 79
56	Empty set in the EU	-	-	
57	**Total regulatory adjustments to Tier 2 (T2) capital**	**-**	**-**	
58	**Tier 2 (T2) capital**	**-**	**-**	
59	**Total capital (TC = T1 + T2)**	**4,692**	**4,614**	
60	**Total risk-weighted assets**	**12,271**	**12,096**	
Capital ratios and buffers				
61	Common Equity Tier 1 (as a percentage of total risk exposure amount	32.3%	32.1%	92 (2) (a), 465
62	Tier 1 (as a percentage of total risk exposure amount	38.2%	38.1%	92 (2) (b), 465
63	Total capital (as a percentage of total risk exposure amount	38.2%	38.1%	92 (2) (c)
64	Institution specific buffer requirement (CET1 requirement in accordance with article 92 (1) (a) plus capital conservation and countercyclical buffer requirements plus a systemic risk buffer, plus systemically important institution buffer expressed as a percentage of total risk exposure amount)	10.33%	8.95%	CRD 128, 129, 140
65	of which: capital conservation buffer requirement	2.50%	1.875%	
66	of which: countercyclical buffer requirement	0.084%	0.075%	
67	of which: systemic risk buffer requirement	n/a	n/a	
67a	of which: Global Systemically Important Institution (G-SII) or Other Systemically Important Institution (O-SII) buffer	1.00%	0.75%	CRD 131

Continued on next page

Continuation of previous page

		(A) AMOUNT AT 31/12/2019	(A) AMOUNT AT 31/12/2018	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk exposure amount)	32.3%	32.1%	CRD 128
69	[non-relevant in EU regulation]	-	-	
70	[non-relevant in EU regulation]	-	-	
71	[non-relevant in EU regulation]	-	-	
Amounts below the thresholds for deduction (before risk-weighting)				
72	Direct and indirect holdings of the capital of financial sector entities where the institution does not have a significant investment in those entities (amount below 10% threshold and net of eligible short positions	-	-	36 (1) (h), 45, 46, 472 (10) 56 (c), 59, 60, 475 (4), 66 (c), 69, 70
73	Direct and indirect holdings of the CET1 instruments of financial sector entities where the institution has a significant investment in those entities (amount below 10% threshold and net of eligible short positions	-	-	36 (1) (i), 45, 48
74	Empty set in the EU	-	-	
75	Deferred tax assets arising from temporary difference (amount below 10 % threshold , net of related tax liability where the conditions in Article 38 (3) are met)	-	-	36 (1) (c), 38, 48
Applicable caps on the inclusion of provisions in Tier 2				
76	Credit risk adjustments included in T2 in respect of exposures subject to standardised approach (prior to the application of the cap)	-	-	62
77	Cap on inclusion of credit risk adjustments in T2 under standardised approach	-	-	62
78	Credit risk adjustments included in T2 in respect of exposures subject to internal rating-based approach (prior to the application of the cap)	-	-	62
79	Cap for inclusion of credit risk adjustments in T2 under internal ratings-based approach	-	-	62
Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2014 and 1 Jan 2022)				
80	Current cap on CET1 instruments subject to phase-out arrangements	-	-	484 (3), 486 (2) & (5)
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	-	-	484 (3), 486 (2) & (5)

Continued on next page

Continuation of previous page		(A) AMOUNT AT 31/12/2019	(A) AMOUNT AT 31/12/2018	(B) REGULATION (EU) NO 575/2013 ARTICLE REFERENCE
82	Current cap on AT1 instruments subject to phase-out arrangements	-	-	484 (4), 486 (3) & (5)
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-	-	484 (4), 486 (3) & (5)
84	Current cap on T2 instruments subject to phase-out arrangements	-	-	484 (5), 486 (4) & (5)
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-	-	484 (5), 486 (4) & (5)

Capital requirements (articles 438 and 440 CRR)

Capital and solvency

Definitions

Regulatory capital relates to the capital requirements under the CRD IV. For regulatory purposes the capital requirement is based on the Pillar 1 requirement for the aggregated Risk-Weighted Assets (RWA) for the three major risk types (credit, operational and market risk). This requirement is supplemented by so-called Combined Buffer Requirement (CBR) and a Pillar 2 requirement (P2R). The CBR consists of a capital conservation buffer, a systemic risk buffer, a countercyclical buffer and a systemic relevance buffer. The P2R is an institutional specific requirement stemming from the Supervisor Review and Evaluation Process (SREP) conducted by the supervisor. The P2R covers risks that are not (fully) covered by Pillar 1. BNG Bank employs the 'Standardised Approach' to calculate the RWAs. In addition to the regulatory required capital BNG Bank calculates Economic Capital (EC). Economic capital covers all risks in our risk taxonomy, for which capital is deemed to be the mitigating instrument to cover unexpected losses. It is used for internal risk measurement and management. It is the amount of capital BNG Bank deems adequate to pursue its strategy and which achieves a sufficient level of protection against large unexpected losses that could result from extreme market conditions or events.

Governance

The capital management activities are governed by the capital management policy. The Executive Board is responsible for determining the policy with respect to capital, including the allocation of capital. Decision making is prepared by the Capital Committee. This committee is chaired by a member of the Executive Board and its members represent all relevant stakeholders from Public Finance, Treasury, Capital Management, Risk Management and Finance and Control.

The design of the capital management process is organised in the Capital Management Framework. This framework interacts with the strategy and overall governance of the bank and ensures alignment to the risk appetite and risk related policies. The framework also enables the embedding of capital management considerations in the daily decision making process by means of the pricing-model, product approval process and the credit approval process

Developments

As at December 2019, the CRD IV Common Equity Tier 1 (CET1), Tier 1 and total capital ratios were respectively 32%, 38% and 38%. All capital ratios were well above regulatory minimum requirements. BNG Bank's capital position strengthened compared to 31 December 2018 driven by profit appropriation.

BNG Bank is required in 2020 to meet a minimum CET1 ratio of 10.33%, composed of a SREP requirement of 6.75% (4.5% Pillar 1 requirement and 2.25% Pillar 2 requirement), an Other Systemic Important Institution buffer (OSII) of 1.00%, a capital conservation buffer (CCB) of 2.50% and a counter cyclical buffer of 0.08%. BNG Bank amply meets the requirements. The Overall Capital Requirement level for BNG Bank is 13.83%.

	31/12/2019	
Solvency	**MINIMUM REQUIRED EXTERNALLY**	**PRESENT**
CRD IV/CRR[1]		
Tier 1 capital	1,697	4,692
Total capital ratio	13.83%	38.2%
– Pillar 1	8%	
– Pillar 2 requirement	2.25%	
– Combined Buffer Requirement	3.58%	
Common Equity Tier 1 capital	1,268	3,959
Common Equity Tier 1 ratio	10.33%	32.3%
– Pillar 1	4.50%	
– Pillar 2 requirement	2.25%	
– Combined Buffer Requirement	3.58%	
Risk-weighted assets	n/a	12,271

1 The phasing-in period of CRD IV/CRR ended on 31-12-2018. Therefore the table is minimized to a single CRD IV/CRR.

	31/12/2018	
	MINIMUM REQUIRED EXTERNALLY	PRESENT
Solvency		
CRD IV/CRR (transitional)		
Tier 1 capital	1,506	4,614
Total capital ratio	12.45%	38.10%
– Pillar 1	8.00%	
– Pillar 2 requirement	1.75%	
– Combined Buffer Requirement	2.70%	
Common Equity Tier 1 capital	1,083	3,881
Common Equity Tier 1 ratio	8.95%	32.10%
– Pillar 1	4.50%	
– Pillar 2 requirement	1.75%	
– Combined Buffer Requirement	2.70%	
Risk-weighted assets	n/a	12,096
CRD IV/CRR (fully phased in)		
Tier 1 capital	1,612	4,614
Total capital ratio	13.325%	38.10%
– Pillar 1	8%	
– Pillar 2 requirement	1.75%	
– Combined Buffer Requirement	3.575%	
Common Equity Tier 1 capital	1,188	3,881
Common Equity Tier 1 ratio	9.825%	32.10%
– Pillar 1	4.50%	
– Pillar 2 requirement	1.75%	
– Combined Buffer Requirement	3.575%	
Risk-weighted assets	n/a	12,096

Capital management

The primary objective of the capital management strategy is to ensure that internal as well as external capital adequacy requirements are met at all times and sufficient capital is available to support the bank's strategy. The capital management strategy builds on the bank's risk appetite and its business plans. Besides, expectations and requirements of external stakeholders (e.g. regulators, investors, rating agencies, shareholders), the bank's capitalisation relative to the market, market developments and the feasibility of capital management actions are taken into account. The capitalisation policy is incorporated in the so-called Internal Capital Adequacy Assessment Process (ICAAP). Key to this policy is the capital management plan, which determines the level and composition of the capital based on the risks to be captured by that capital. In the ICAAP, regulatory as well as economic capital is taken into account. As part of the ICAAP a number of stress scenarios is executed in order to determine the adequacy and robustness of the capitalisation. Next to the level of capitalisation, the ICAAP determines the allocation per relevant type of risk. On an ongoing basis, capital adequacy is measured and monitored against target capital ratios. These target levels are derived from the bank's risk appetite and strategy and quantified by the ICAAP. The allocation is derived from the ICAAP. This process ensures that the bank is operating in line with its risk appetite.

Regulatory framework

On June 7, 2019 CRDV, CRR2, BRRD2 and SRMR2 were published in the official journal. CRR2 and CRDV amend the Capital Requirements Regulation (CRR) and Capital Requirements Directive (CRDIV), which provide the legal architecture for the prudential regulation of banks in the EU. A key element of CRR2 is that it lays down the non-risk based leverage ratio as a binding measure. All banks have to comply with a minimum leverage ratio of 3%[4]. The competent authority may require or recommend additional own funds to cover other risks of excessive leverage not already covered by this requirement. For public development sector institutions like BNG Bank CRR2 provides for a proportional treatment. These institutions are allowed to deduct exposures arising from assets that constitute claims on central governments, regional governments, local authorities or public sector entities in relation to public sector investments and promotional loans from the exposure measure.

BRRD2 and SRMR2 amend the Bank Recovery and Resolution Directive and the Single Resolution Mechanism Regulation, which constitute the EU legislative framework on bank resolution. Part of the framework is an additional loss-absorbing measure, MREL. MREL is an institution specific requirement determined by the Single Resolution Board (SRB). On February 27, 2019 the SRB concluded that simplified obligations apply to BNG Bank. This means that the preferred resolution strategy is normal insolvency law. This means that the MREL requirement coincides with the Pillar 1, Pillar 2 and combined buffer requirements. Hence, the MREL requirement does not pose an additional capital requirement.

Commonly referred to as Basel IV, the Basel Committee on Banking Supervision has issued in December 2017 post crisis reforms. Basel IV has to be transposed in European law, earliest expected timeline 2022/2023. The impact is therefore yet unclear and conditional on the transposition (i.e. potential changes made during this process). While introducing changes to the Standardised Approach, the framework aims specifically to enhance the reliability and comparability of risk-weighted capital ratios under the Internal Model approach. As such, the changes will impact the capital position of BNG Bank. The most important driver for the impact is whether the exclusion of several counterparties under CRR Article 382 will be maintained. The treatment of sovereign exposures is not part of Basel IV. Revisions to this approach are part of a discussion paper. As sovereign exposures form a significant part of BNG Bank's exposures, any changes to the treatment of these exposures will have a significant impact on BNG Bank's capital ratios. Developments in this area will be monitored closely.

The EU revised the securitisation regulation as per December 2017 by adopting Regulation (EU) 2017/2401 and Regulation (EU) 2017/2402. The new rules will apply to new transactions from 2019 onwards and one year later to existing transactions. The positive impact, given the more favourable risk weighting under the revised regulation, on BNG Bank's capital position will therefore result beginning 2020.

[4] A Globally Systemic Institution (G-SII) is required to maintain an additional buffer equal to 50% of the G-SII buffer rate

Overview of RWA (EU OV1)

Table: EU OV1	31/12/2019	30/09/2019	31/12/2019	30/09/2019
	RWA		MINIMUM CAPITAL REQUIREMENT	
Credit risk (excluding CCR)	**9,100**	**9,176**	**728**	**734**
Of which standardised appoach (SA)	9,100	9,176	728	734
Of which the foundation IRB (FIRB)	-	-	-	-
Of which the advanced IRB (AIRB)	-	-	-	-
Of which Equity IRB under the simple risk-weighted approach or the IMA	-	-	-	-
Counterparty Credit Risk	**1,128**	**1,525**	**90**	**122**
Of which mark-to-market	-	-		
Of which original exposure	-	-		
Of which the standardised appoach	140	267	11	22
Of which internal model method (IMM)	-	-	-	-
Of which risk exposure amount for contributions to the default fund of a CCP	0	3	-	-
Of which CVA	988	1,255	79	100
Settlement risk	**-**	**-**	**-**	**-**
Securitisation exposures in banking book (after the cap)	**1,038**	**1,060**	**83**	**85**
Of which IRB approach (RBA)	-	-	-	-
Of which IRB Supervisory Formula Approach (SFA)	-	-	-	-
Of which internal assessment approach (IAA)	-	-	-	-
Of which Standardised approach (SA)	1,038	1,060	83	85
Market risk	**-**	**103**	**-**	**8**
Of which Standardised approach (SA)	-	103	-	8
Of which IMA	-	-	-	-
Large exposures	**-**	**-**	**-**	**-**
Operational risk	**1,005**	**1,017**	**80**	**81**
Of which basic indicator approach	-	-	-	-
Of which standardised approach (SA)	1,005	1,017	80	81
Of which advanced measurement approach	-	-	-	-
Amounts below the thresholds for deduction (subject to 250% risk weight)	-	-	-	-
Floor adjustment	**-**	**-**	**-**	**-**
Total	**12,271**	**12,881**	**981**	**1,030**

Table: EU OV1	31/12/2018	30/09/2018	31/12/2018	30/09/2018
	RWA		MINIMUM CAPITAL REQUIREMENT	
Credit risk (excluding CCR)	**8,706**	**8,749**	**697**	**700**
Of which standardised appoach (SA)	8,706	8,749	697	700
Of which the foundation IRB (FIRB)	-	-	-	-
Of which the advanced IRB (AIRB)	-	-	-	-
Of which Equity IRB under the simple risk-weighted approach or the IMA	-	-	-	-
Counterparty Credit Risk	**1,087**	**1,288**	**87**	**103**
Of which mark-to-market	-	-	-	-
Of which original exposure	-	-	-	-
Of which the standardised appoach	14	18	1	1
Of which internal model method (IMM)	-	-	-	-
Of which risk exposure amount for contributions to the default fund of a CCP	3	8	–	1
Of which CVA	1,070	1,262	86	101
Settlement risk	**-**	**-**	**-**	**-**
Securitisation exposures in banking book (after the cap)	**1,193**	**1,034**	**96**	**83**
Of which IRB approach (RBA)	-	-	-	-
Of which IRB Supervisory Formula Approach (SFA)	-	-	-	-
Of which internal assessment approach (IAA)	-	-	-	-
Of which Standardised approach (SA)	1,193	1,034	96	83
Market risk	**93**	**-**	**7**	**-**
Of which Standardised approach (SA)	93	-	7	-
Of which IMA	-	-	-	-
Large exposures	**-**	**-**	**-**	**-**
Operational risk	**1,017**	**951**	**81**	**76**
Of which basic indicator approach	-	-	-	-
Of which standardised approach (SA)	1,017	951	81	76
Of which advanced measurement approach	-	-	-	-
Amounts below the thresholds for deduction (subject to 250% risk weight)	-	-	-	-
Floor adjustment	**-**	**-**	**-**	**-**
Total	**12,096**	**12,022**	**968**	**962**

Countercyclical capital buffer (article 440 CRR)

	31/12/2019						
	GENERAL CREDIT EXPOSURES	SECURITISATION EXPOSURE	OWN FUNDS REQUIREMENT				
	EXPOSURE VALUE SA	EXPOSURE VALUE SA	OF WHICH: GENERAL CREDIT RISK EXPSOSURES	OF WHICH: SECURITISATION EXPOSURES	TOTAL	OWN FUNDS REQUIREMENT WEIGHT	COUNTER-CYCLICAL CAPITAL BUFFER RATE
Belgium	228	28	18	-	18	2.44%	0.00%
Spain	0	366	0	13	13	1.69%	0.00%
France	194	50	5	2	7	0.88%	0.25%
Great Britain	1,555	26	59	0	59	7.92%	1.00%
Ireland	-	48	-	2	2	0.26%	1.00%
Italy	-	19	-	0	0	0.04%	0.00%
Netherlands	24,658	4,400	572	65	637	85.39%	0.00%
Portugal	126	6	10	0	10	1.38%	0.00%
Total	**26,761**	**4,943**	**664**	**82**	**746**	**100.00%**	

	31/12/2018						
	GENERAL CREDIT EXPOSURES	SECURITISATION EXPOSURE	OWN FUNDS REQUIREMENT				
	EXPOSURE VALUE SA	EXPOSURE VALUE SA	OF WHICH: GENERAL CREDIT RISK EXPSOSURES	OF WHICH: SECURITISATION EXPOSURES	TOTAL	OWN FUNDS REQUIREMENT WEIGHT	COUNTER-CYCLICAL CAPITAL BUFFER RATE
Belgium	195	31	16	-	16	2.20%	0.00%
Spain	21	426	0	17	17	2.30%	0.00%
France	182	50	4	2	6	0.90%	0.00%
Great Britain	1,471	34	54	0	54	7.50%	1.00%
Ireland	-	54	-	2	2	0.30%	0.00%
Italy	-	32	-	1	1	0.10%	0.00%
Netherlands	19,315	4,158	543	71	614	85.00%	0.00%
Portugal	128	42	10	2	12	1.70%	0.00%
Total	**21,312**	**4,827**	**627**	**95**	**722**	**100.00%**	

	31/12/2019	31/12/2018
Amount of institution-specific countercyclical capital buffer		
Total risk exposure amount	12,271	12,096
Institution specific countercyclical buffer rate	0.084%	0.075%
Institution specific countercyclical buffer requirement	10	9

Credit risk and credit risk mitigation (articles 442 and 453 CCR)

In the application of article 442 and 453 CRR templates and tables in this section provide further quantitative insight into the credit risk profile of BNG Bank. This first starts with some different perspectives on the overall portfolio of BNG Bank before concentrating on the non-performing and forborne exposures, the credit risk mitigation measures that are applied and the effects on the RWA that should be considered for capitalisation purposes. However, first some more context is provided on the definitions applied with respect to the credit quality of assets.

Credit quality of assets (EUR CRB-A)

Forborne exposures

Forbearance concerns credit agreements whose credit conditions have been amended in the debtor's favour as a result of the debtor's precarious financial position, so as to enable it to fulfil its obligations.

Non-performing exposures

BNG Bank applies the following criteria to designate exposures as non-performing or credit-impaired:

- BNG Bank considers that the obligor is unlikely to pay its credit obligations to the bank;
- The obligor is past due 90 days or more on any material credit obligation to the bank.

The bank employs the following indicators for 'Unlikeliness to pay':

- The obligor's source of income is considered insufficient to meet its payment obligations;
- There are indications that future cash flows are under pressure;
- The obligor's debt ratio has increased significantly;
- One or more covenants have been breached;
- BNG Bank has called upon a guarantee or seized collateral;
- Significant delayed payments to other creditors (recorded in a register);
- There is a crisis in the obligor's market sector, in which the obligor is considered to be a weak party;
- The obligor can no longer be active in its market sector as a result of its financial difficulties;
- Another creditor has filed for the obligor's bankruptcy.

The term 'past due' refers to the payment arrears commencing at the moment on which payment was contractually due.

An exposure classified as non-performing can once again be regarded as performing if all of the following conditions are met:

- The debtor once again complies with all contractual terms (no default); and
- The debtor's situation has improved to the extent that the debtor is able to meet payment obligations according to an existing or adjusted payment profile ('likely to pay'); and
- The debtor has no payment arrears exceeding 90 days.

Impairment of financial assets

BNG Bank assesses on a forward-looking basis the expected credit losses (ECL). Financial assets migrate through the following three stages based on the change in credit risk since initial recognition. When a modification of a financial asset results in the derecognition of the existing financial asset and the subsequent recognition of the modified asset, the date of modification shall be regarded as the date of initial recognition.

Stage 1: 12-month ECL

BNG Bank recognises an ECL allowance reflecting default events that are possible within the next 12 months for exposures without a significant increase in credit risk (SICR) since initial recognition.

Stage 2: lifetime ECL – not credit-impaired

BNG Bank recognises an ECL allowance reflecting default events that are possible during the remaining lifetime of the financial assets for exposures which have had a significant increase in credit risk since initial recognition, but which are not considered credit-impaired.

Stage 3: lifetime ECL – credit-impaired

BNG Bank assesses on an individual exposure level whether exposures are credit-impaired. This assessment is based on whether one or more events have occurred that have a detrimental impact on the estimated future cash flows of that asset.

Credit-impaired exposures are financial assets measured at amortised cost or fair value through other comprehensive income and off-balance sheet exposures for which a Stage 3 credit loss allowance was made. Exposures classified under Stage 1 or 2 are not classified as credit-impaired exposures.

Total and average net amount of exposures (EU CRB-B)

	31/12/2019		31/12/2018	
	NET VALUE OF EXPOSURES AT THE END OF THE PERIOD	AVERAGE NET EXPOSURE OF THE PERIOD	NET VALUE OF EXPOSURES AT THE END OF THE PERIOD	AVERAGE NET EXPOSURE OF THE PERIOD
Table: EU CRB-B				
Central governments or central banks	6,846	19,698	7,742	21,365
Regional governments or local authorities	36,989	36,393	38,085	37,546
Public sector entities	3,574	3,504	3,078	2,881
Multilateral Development Banks	434	590	802	781
International Organisations	493	582	542	570
Institutions	632	598	537	548
Corporates	63,563	62,798	61,947	61,787
– Of which: 0% risk weighted	*52,111*	*51,741*	*51,067*	*51,145*
Secured by mortgages on immovable property	138	145	157	165
Exposures in default	163	88	41	34
Items associated with particulary high risk	107	159	-	-
Covered bonds	1,389	1,353	1,198	1,238
Claims with a short-term credit assessment	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-
Equity	35	38	44	43
Securitisation positions	5,104	4,932	4,999	4,132
Other items	16,493	17,127	11,607	11,362
Total credit risk exposure (SA)	**135,960**	**148,005**	**130,779**	**142,452**
– Of which: Small & Medium Enterprises (SMEs)	*14,144*	*14,017*	*14,064*	*14,166*

Geographical breakdown of exposures (EU CRB-C)

Table: CRB-C	NETHERLANDS	OTHER EURO COUNTRIES	REST OF EUROPE	REST OF THE WORLD	31/12/2019 TOTAL EXPOSURE VALUE
Central governments or central banks	3,141	3,682	-	23	6,846
Regional governments or local authorities	36,493	496	-	-	36,989
Public sector entities	2,652	831	91	-	3,574
Multilateral Development Banks	-	434	-	-	434
International Organisations	-	493	-	-	493
Institutions	89	540	1	2	632
Corporates	61,117	674	1,772	-	63,563
Of which: 0% risk weighted	*51,269*	*133*	*709*	-	*52,111*
Secured by mortgages on immovable property	138	-	-	-	138
Exposures in default	163	-	-	-	163
Items associated with particularly high risk	107	-	-	-	107
Covered bonds	759	26	604	-	1,389
Claims with a short-term credit assessment	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-
Equity	35	-	-	-	35
Securitisation positions	4,492	586	26	-	5,104
Other items	16,493	-	-	-	16,493
Total credit risk exposure (SA)	**125,679**	**7,762**	**2,494**	**25**	**135,960**

Table: CRB-C	NETHERLANDS	OTHER EURO COUNTRIES	REST OF EUROPE	REST OF THE WORLD	31/12/2018 TOTAL EXPOSURE VALUE
Central governments or central banks	3,697	4,023	-	22	7,742
Regional governments or local authorities	37,492	593	-	-	38,085
Public sector entities	2,386	601	91	-	3,078
Multilateral Development Banks	-	802	-	-	802
International Organisations	-	542	-	-	542
Institutions	8	527	1	1	537
Corporates	59,756	580	1,611	-	61,947
Of which: 0% risk weighted	*50,273*	*150*	*644*	-	*51,067*
Secured by mortgages on immovable property	157	-	-	-	157
Exposures in default	41	-	-	-	41
Covered bonds	528	47	623	-	1,198
Claims with a short-term credit assessment	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-
Equity	44	-	-	-	44
Securitisation positions	4,257	708	34	-	4,999
Other items	11,607	-	-	-	11,607
Total credit risk exposure (SA)	**119,973**	**8,423**	**2,360**	**23**	**130,779**

Concentration of exposures by industry or counterparty types (EU CRB-D)

							31/12/2019
	GENERAL GOVERN-MENTS	CREDIT INSTITU-TIONS	OTHER FINANCIAL CORPO-RATIONS	NON-FINANCIAL CORPO-RATIONS	HOUSE-HOLDS	OTHER	TOTAL EXPOSURE VALUE
Table: EU CRB-D							
Central governments or central banks	6,846	-	-	-	-	-	6,846
Regional governments or local authorities	36,989	-	-	-	-	-	36,989
Public sector entities	3,574	-	-	-	-	-	3,574
Multilateral Development Banks	-	434	-	-	-	-	434
International Organisations	493	-	-	-	-	-	493
Institutions	-	632	-	-	-	-	632
Corporates	335	-	1,833	57,498	3,897	-	63,563
Of which: 0% risk weighted	*81*	-	*807*	*48,372*	*2,851*	-	*52,111*
Secured by mortgages on immovable property	-	-	138	-	-	-	138
Exposures in default	-	-	*0*	*131*	32	-	163
Items associated with particularly high risk	-	-	-	-	-	107	107
Covered bonds	-	1,363	26	-	-	-	1,389
Claims with a short-term credit assessment	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-
Equity	-	-	32	-	-	3	35
Securitisation positions	-	-	5,104	-	-	-	5,104
Other items	-	-	0	-	-	16,493	16,493
							-
Total credit risk exposure (SA)	**48,237**	**2,429**	**7,133**	**57,629**	**3,929**	**16,603**	**135,960**

Table: EU CRB-D	GENERAL GOVERN-MENTS	CREDIT INSTITU-TIONS	OTHER FINANCIAL CORPO-RATIONS	NON-FINANCIAL CORPO-RATIONS	HOUSE-HOLDS	OTHER	31/12/2018 TOTAL EXPOSURE VALUE
Central governments or central banks	7,742	-	-	-	-	-	7,742
Regional governments or local authorities	38,085	-	-	-	-	-	38,085
Public sector entities	3,078	-	-	-	-	-	3,078
Multilateral Development Banks	-	802	-	-	-	-	802
International Organisations	542	-	-	-	-	-	542
Institutions	-	537	-	-	-	-	537
Corporates	-	-	2,010	56,196	3,741	-	61,947
Of which: 0% risk weighted	-	-	*1,021*	*47,408*	*2,638*	-	*51,067*
Secured by mortgages on immovable property	-	-	157	-	-	-	157
Exposures in default	-	-	2	22	17	-	41
Covered bonds	-	1,172	26	-	-	-	1,198
Claims with a short-term credit assessment	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-
Equity	-	-	41	-	-	3	44
Securitisation positions	-	-	4,999	-	-	-	4,999
Other items	-	-	-	-	-	11,607	11,607
Total credit risk exposure (SA)	**49,447**	**2,511**	**7,235**	**56,218**	**3,758**	**11,610**	**130,779**

Maturity of exposures (EU CRB-E)

						31/12/2019
	NET EXPOSURE VALUE					
	ON DEMAND	<= 1 YEAR	> 1 YEAR <= 5 YEARS	> 5 YEARS	NO STATED MATURITY	TOTAL
Table: EU CRB-E						
Central governments or central banks	0	1,272	1,930	3,644	-	6,846
Regional governments or local authorities	541	4,895	6,304	22,231	-	33,971
Public sector entities	4	91	1,037	1,870	0	3,002
Multilateral Development Banks	-	-	216	218	-	434
International Organisations	-	-	204	289	-	493
Institutions	0	50	346	236	0	632
Corporates	501	2,579	8,389	44,912	-	56,381
Of which: 0% risk weighted	*195*	*1,970*	*7,163*	*39,336*	-	*48,664*
Secured by mortgages on immovable property	-	-	-	-	138	138
Exposures in default	6	35	48	45	0	134
Items associated with particularly high risk	-	-	-	-	107	107
Covered bonds	-	220	966	203	-	1,389
Claims with a short-term credit assessment	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-
Equity	-	3	-	-	31	34
Securitisation positions	-	-	50	4,888	-	4,938
Other items	-	107	1,710	14,676	-	16,493
Total credit risk exposure (SA)	**1,052**	**9,252**	**21,200**	**93,212**	**276**	**124,992**

Table: EU CRB-E	NET EXPOSURE VALUE					31/12/2018
	ON DEMAND	<= 1 YEAR	> 1 YEAR <= 5 YEARS	> 5 YEARS	NO STATED MATURITY	TOTAL
Central governments or central banks	1,587	-	1,970	4,185	-	7,742
Regional governments or local authorities	622	4,307	6,413	20,781	0	32,123
Public sector entities	26	118	744	1,407	0	2,295
Multilateral Development Banks	-	-	298	504	-	802
International Organisations	-	-	-	542	-	542
Institutions	0	41	298	198	-	537
Corporates	580	2,767	8,811	43,003	25	55,186
Of which: 0% risk weighted	*196*	*1,905*	*7,541*	*38,087*	-	*47,729*
Secured by mortgages on immovable property	-	-	-	-	157	157
Exposures in default	9	-	-	-	32	41
Covered bonds	-	80	738	380	-	1,198
Claims with a short-term credit assessment	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-
Equity	-	3	-	-	41	44
Securitisation positions	-	-	-	4,801	-	4,801
Other items	-	146	1,941	9,512	8	11,607
Total credit risk exposure (SA)	**2,824**	**7,462**	**21,213**	**85,313**	**263**	**117,075**

The exposure values in this table are exclusive of off-balance exposure in contrast to the other tables. The total credit exposure is therefore lower than in the other tables.

Credit quality of exposures by exposure classes and instruments (EU CR1-A)

Table: EU CR1-A							31/12/2019
	GROSS CARRYING VALUES OF:						
	DEFAULTED EXPOSURES	NON-DEFAULTED EXPOSURES	SPECIFIC CREDIT RISK ADJUST-MENT	GENERAL CREDIT RISK ADJUST-MENT	ACCUMU-LATED WRITE-OFFS	CREDIT RISK ADJUSTMENT CHARGES OF THE PERIOD	NET VALUES
Central governments or central banks	-	6,846	0	-			6,846
Regional governments or local authorities	-	36,990	1	-	-	-	36,989
Public sector entities	-	3,574	0	-	-	-	3,574
Multilateral Development Banks	-	434	-	-	-	-	434
International Organisations	-	493	-	-	-	-	493
Institutions	-	632	0	-	-	-	632
Corporates	322	63,601	197	-	-	–119	63,726
– *Of which: 0% risk weighted*	-	*52,111*	-	-	-	-	*52,111*
– *Of which: SMEs*	-	*14,146*	*17*	-	-	-	*14,129*
Secured by mortgages on immovable property	-	138	-	-	-	-	138
Exposures in default	*322*	-	*158*	-	-	-	*164*
Items associated with particularly high risk	-	*107*	*0*	-	-	-	107
Covered bonds	-	1,389	0	-	-	-	1,389
Claims with a short-term credit assessment	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-
Equity	-	35	-	-	-	-	35
Securitisation positions	-	5,110	6	-	-	-	5,104
Other items	-	16,493	-	-	5	–2	16,493
Total credit risk exposure (SA)	**322**	**135,842**	**204**	**-**	**5**	**-121**	**135,960**
Of which: Loans and advances	288	88,519	190	-	5	–121	88,617
Of which: Debt securities	0	18,065	7	-	-	-	18,058
Of which: Off-balance sheet exposures	32	10,943	5	-	-	-	10,970

Table: EU CR1-A	Gross carrying values of: Defaulted exposures	Non-defaulted exposures	Specific credit risk adjustment	General credit risk adjustment	Accumulated write-offs	Credit risk adjustment charges of the period	Net values
							31/12/2018
Central governments or central banks	-	7,742	0	-	-	-	7,742
Regional governments or local authorities	-	38,086	1	-	-	-	38,085
Public sector entities	-	3,078	0	-	-	-	3,078
Multilateral Development Banks	-	802	-	-	-	-	802
International Organisations	-	542	-	-	-	-	542
Institutions	-	537	0	-	-	-	537
Corporates	57	61,980	49	-	-	-10	61,988
– *Of which: 0% risk weighted*	-	*51,067*	-	-	-	-	*51,067*
– *Of which: SMEs*	*32*	*14,033*	*16*	-	-	-	*14,049*
Secured by mortgages on immovable property	-	157	-	-	-	-	157
Exposures in default	*57*	-	*16*	-	-	-	*41*
Covered bonds	-	1,198	0	-	-	-	1,198
Claims with a short-term credit assessment	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-
Equity	-	44	-	-	-	-	44
Securitisation positions	-	5,006	7	-	-	-	4,999
Other items	-	11,607	-	-	-	-	11,607
Total credit risk exposure (SA)	**57**	**130,779**	**57**	**-**	**-**	**-10**	**130,779**
Of which: Loans and advances	57	85,612	47	-	-	-3	85,669
Of which: Debt securities	-	13,200	8	-	-	-7	13,200
Of which: Off-balance sheet exposures	-	13,515	2	-	-	-	13,515

Credit quality of exposures by industry or counterparty types (EU CR1-B)

							31/12/2019
	GROSS CARRYING VALUES OF:						
Table: EU CR1-B	DEFAULTED EXPOSURES	NON-DEFAULTED EXPOSURES	SPECIFIC CREDIT RISK ADJUST-MENT	GENERAL CREDIT RISK ADJUST-MENT	ACCUMULATED WRITE-OFFS	CREDIT RISK ADJUST-MENT CHARGES OF THE PERIOD	NET VALUES
General governments	-	48,238	1	-	-	0	48,236
Credit institutions	-	2,429	0	-	-	0	2,429
Other financial corporations	2	7,141	9	-	-	–1	7,134
Non-financial corporations	288	57,530	188	-	-	–118	57,630
Households	32	3,902	6	-	5	–2	3,928
Other	-	16,603	0	-	-	-	16,603
Total	**322**	**135,843**	**204**	**-**	**5**	**-121**	**135,960**

							31/12/2018
	GROSS CARRYING VALUES OF:						
Table: EU CR1-B	DEFAULTED EXPOSURES	NON-DEFAULTED EXPOSURES	SPECIFIC CREDIT RISK ADJUST-MENT	GENERAL CREDIT RISK ADJUST-MENT	ACCUMULATED WRITE-OFFS	CREDIT RISK ADJUST-MENT CHARGES OF THE PERIOD	NET VALUES
General governments	-	49,448	1	-	-	0	49,447
Credit institutions	-	2,511	0	-	-	0	2,511
Other financial corporations	3	7,240	8	-	-	–5	7,235
Non-financial corporations	31	56,225	38	-	-	–4	56,218
Households	23	3,745	10	-	-	–1	3,758
Other	-	11,610	-	-	-	-	11,610
Total	**57**	**130,779**	**57**	**-**	**-**	**-10**	**130,779**

Credit quality of exposures by geography (EU CR1-C)

							31/12/2019
	GROSS CARRYING VALUES OF:						
Table: EU CR1-C	DEFAULTED EXPOSURES	NON-DEFAULTED EXPOSURES	SPECIFIC CREDIT RISK ADJUSTMENT	GENERAL CREDIT RISK ADJUSTMENT	ACCUMU-LATED WRITE -OFFS	CREDIT RISK ADJUSTMENT CHARGES OF THE PERIOD	NET VALUES
Netherlands	322	125,552	194	-	-5	-121	125,680
Other Euro countries	-	7,770	8	-	-	-	7,762
Rest of Europe	-	2,496	2	-	-	-	2,494
Rest of the world	-	24	0	-	-	-	24
Total	**322**	**135,842**	**204**	**-**	**-5**	**-121**	**135,960**

							31/12/2018
	GROSS CARRYING VALUES OF:						
Table: EU CR1-C	DEFAULTED EXPOSURES	NON-DEFAULTED EXPOSURES	SPECIFIC CREDIT RISK ADJUSTMENT	GENERAL CREDIT RISK ADJUSTMENT	ACCUMU-LATED WRITE -OFFS	CREDIT RISK ADJUSTMENT CHARGES OF THE PERIOD	NET VALUES
Netherlands	57	119,962	46	-	-	-10	119,973
Other Euro countries	-	8,432	9	-	-	-	8,423
Rest of Europe	-	2,362	2	-	-	-	2,360
Rest of the world	-	23	0	-	-	-	23
Total	**57**	**130,779**	**57**	**-**	**-**	**-10**	**130,779**

Credit quality of forborne exposures

								31/12/2019
	Gross carrying amount/nominal amount of exposures with forbearance measures				Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions		Collateral received and financial guarantees received on forborne exposures	
	Performing forborne	Non-performing forborne			On performing forborne exposures	On non-performing forborne exposures		Of which: collateral and financial guarantees received on non-performing exposures with forbearance measures
			Of which: defaulted	Of which: impaired				
Loans and advances	**341**	**5**	**5**	**5**	**-24**	**-2**	**30**	**-**
of which:								
- Central banks	-	-	-	-	-	-	-	-
- General governments	-	-	-	-	-	-	-	-
- Credit institutions	-	-	-	-	-	-	-	-
- Other financial corporations	-	-	-	-	-	-	-	-
- Non-financial corporations	290	5	5	5	-22	-2	30	
- Households	51	-	-	-	-2	-	-	-
Debt Securities	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Loan commitments given	**15**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Total	**356**	**5**	**5**	**5**	**-24**	**-2**	**30**	**-**

Credit quality of non-performing exposures by past due days

	31/12/2019											
	Gross carrying amount / nominal amount											
	Performing exposures			Non-performing exposures								
					Unlikely to pay that are:							
		Not past due or past due ≤ 30 days	Past due > 30 days ≤ 90 days		not past due or are past due ≤ 90 days	Past due > 90 days ≤ 180 days	Past due > 180 days ≤ 1 year	Past due > 1 year ≤ 2 years	Past due > 2 years ≤ 5 years	Past due > 5 years ≤ 7 years	Past due > 7 years	Of which defaulted
Loans and advances	**104,864**	**104,864**	**-**	**290**	**288**	**-**	**-**	**2**	**-**	**-**	**-**	**290**
Central banks	1,272	1,272	-	-	-	-	-	-	-	-	-	-
General governments	34,726	34,726	-	-	-	-	-	-	-	-	-	-
Credit institutions	14,717	14,717	-	-	-	-	-	-	-	-	-	-
Other financial corporations	933	933	-	2	-	-	-	2	-	-	-	2
Non-financial corporations	49,629	49,629	-	256	256	-	-	-	-	-	-	256
of which SMEs	*12,306*	*12,306*	-	*13*	*13*	-	-	-	-	-	-	*13*
Households	3,587	3,587	-	32	32	-	-	-	-	-	-	32
Debt Securities	**18,066**	**18,066**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-
General governments	8,598	8,598	-	-	-	-	-	-	-	-	-	-
Credit institutions	2,364	2,364	-	-	-	-	-	-	-	-	-	-
Other financial corporations	5,310	5,310	-	-	-	-	-	-	-	-	-	-
Non-financial corporations	1,794	1,794	-	-	-	-	-	-	-	-	-	-
Off-balance-sheet exposures	**10,943**			**32**								**32**
Central banks	-			-								-
General governments	3,600			-								-
Credit institutions	-			-								-
Other financial corporations	713			-								-
Non-financial corporations	6,177			32								32
Households	453			-								-
Total	**133,873**	**122,930**	**-**	**322**	**288**	**-**	**-**	**2**	**-**	**-**	**-**	**322**

Performing and non-performing exposures and related provisions

															31/12/2019
	Gross carrying amount/nominal amount						Accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions						Accumulated partial write-off	Collateral and financial guarantees received	
	Performing exposures			Non-performing exposures			Performing exposures - accumulated impairment and provisions			Non-performing exposures - accumulated impairment, accumulated negative changes in fair value due to credit risk and provisions					
		Of which Stage 1	Of which stage 2		Of which stage 2	Of which stage 3		Of which Stage 1	Of which stage 2		Of which stage 2	Of which stage 3		On performing exposures	On non-performing exposures
Loans and advances	**104,864**	**103,424**	**1,440**	**290**	**-**	**290**	**-37**	**-5**	**-31**	**-156**	**-**	**-156**	**-**	**-**	**174**
Central banks	1,272	1,272	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	34,726	34,673	53	-	-	-	-1	0	0	-	-	-	-	-	-
Credit institutions	14,717	14,717	-	-	-	-	-	0	0	-	-	-	-	-	-
Other financial corporations	933	783	150	2	-	2	-	-	-	-2	-	-2	-	-	142
Non-financial corporations	49,629	48,967	662	256	-	256	-30	-4	-26	-154	-	-154	-	-	-
of which SMEs	12,306	12,165	141	13	-	13	-16	*0*	-16	-	-	-	-	-	-
Households	3,587	3,012	575	32	-	32	-6	-1	-5	-	-	-	-	-	32
Debt Securities	**18,066**	**17,904**	**162**	**-**	**-**	**-**	**-7**	**-1**	**-6**	**-**	**-**	**-**	**-**	**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
General governments	8,598	8,542	57	-	-	-	-1	-1	0	-	-	-	-	-	-
Credit institutions	2,364	2,363	-	-	-	-	0	0	-	-	-	-	-	-	-
Other financial corporations	5,310	5,205	105	-	-	-	-6	0	-6	-	-	-	-	-	-
Non-financial corporations	1,794	1,794	-	-	-	-	0	0	-	-	-	-	-	-	-
Off-balance-sheet exposures	**10,943**	**10,704**	**239**	**32**	**-**	**32**	**-2**	**-2**	**-1**	**-2**	**-**	**-2**		**-**	**-**
Central banks	-	-	-	-	-	-	-	-	-	-	-	-		-	-
General governments	3,600	3,595	5	-	-	-	0	0	0	-	-	-		-	-
Credit institutions	-	-	-	-	-	-	-	-	-	-	-	-		-	-
Other financial corporations	713	573	140	-	-	-	0	0	0	-	-	-		-	-
Non-financial corporations	6,177	6,123	54	32	-	32	-2	-2	-1	-2	-	-2		-	-
Households	453	413	40	-	-	-	0	0	0	-	-	-		-	-
Total	**133,873**	**132,032**	**1,841**	**322**	**-**	**322**	**-46**	**-8**	**-38**	**-158**	**-**	**-158**	**-**	**-**	**174**

	31/12/2019	
	Collateral obtained by taking possession	
	Value at initial recognition	Accumulated negative changes
Property, plant and equipment (PP&E)	-	-
Other than PP&E, of which:	-	-
- *Residential immovable property*	-	-
- *Commercial immovable property*	-	-
- *Movable property (auto, shipping, etc.)*	-	-
- *Equity and debt instruments*	-	-
- *Other*	-	-
Total	**-**	**-**

Changes in stock of general and specific credit risk adjustments (EU CR2-A)

Table: EU CR2-A	Accumulated specific credit risk adjustment
Closing balance 2017	**66**
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	-
Specific credit risk adjustments directly recorded to the statement of profit or loss	-
Opening balance 2018	**66**
Increases due to amounts set aside for estimated loan losses during the period	12
Decreases due to amounts reversed for estimated loan losses during the period	–24
Decreases due to amounts taken against accumulated credit risk adjustments	-
Transfers between credit risk adjustments	3
Impact of exchange rate differences	-
Business combinations, including acquisitions and disposals of subsidiaries	-
Other adjustments	-
Closing balance 2018	**57**
Opening balance 2019	**57**
Increases due to amounts set aside for estimated loan losses during the period	6
Decreases due to amounts reversed for estimated loan losses during the period	–6
Decreases due to amounts taken against accumulated credit risk adjustments	-
Transfers between credit risk adjustments	153
Impact of exchange rate differences	-
Business combinations, including acquisitions and disposals of subsidiaries	-
Other adjustments	–5
Closing balance 2019	**205**
Recoveries on credit risk adjustments recorded directly to the statement of profit or loss	-
Specific credit risk adjustments directly recorded to the statement of profit or loss	-

BNG Bank does not asses credit risk adjustments on a general level, therefore this table only consists the accumulated specific credit risk adjustments.

BNG Bank assesses on a forward-looking basis the expected credit losses (ECL) for the following categories of financial assets that are not measured at fair value through the income statement:

- debt instruments measured at amortised cost; and
- debt instruments measured at fair value through other comprehensive income; and
- loan commitments; and
- financial guarantee contracts.

Financial assets migrate through the three stages defined in IFRS 9 based on the change in credit risk since initial recognition. When a modification of a financial asset results in the derecognition of the existing financial asset and the subsequent recognition of the modified asset, the date of modification shall be regarded as the date of initial recognition.

Changes in stock of defaulted and impaired loans and debt securities (EU CR2-B)

Table: EU CR2-B	GROSS CARRYING VALUE DEFAULTED EXPOSURES
Closing balance 2017	**37**
Loans and debt securities that have defaulted or impaired since the last reporting date	33
Returned to non-defaulted status	–11
Amounts written off	-
Other changes	–2
Closing balance 2018	**57**
Loans and debt securities that have defaulted or impaired since the last reporting date	301
Returned to non-defaulted status	–22
Amounts written off	–5
Other changes	–9
Closing balance 2019	**322**

Credit risk mitigation techniques – overview (EU CR3)

					31/12/2019
	EXPOSURES UNSECURED - CARRYING AMOUNT	EXPOSURES TO BE SECURED	EXPOSURES SECURED BY COLLATERAL	EXPOSURES SECURED BY GUARANTEES	EXPOSURES SECURED BY CREDIT DERIVATIVES
Table: EU CR3					
Total loans and advances	88,617	48,613	88	48,525	-
Total debt securities	13,120	6,348	-	6,349	-
Total securitisation	5,104	-	-	-	-
Total off balance sheet exposure	10,803	3,929	5	3,924	-
Total other exposure	18,316	297	8	289	-
Total exposures	**135,960**	**59,187**	**101**	**59,087**	**-**
Of which defaulted	163	-	-	-	-

					31/12/2018
	EXPOSURES UNSECURED - CARRYING AMOUNT	EXPOSURES TO BE SECURED	EXPOSURES SECURED BY COLLATERAL	EXPOSURES SECURED BY GUARANTEES	EXPOSURES SECURED BY CREDIT DERIVATIVES
Table: EU CR3					
Total loans and advances	85,567	47,571	97	47,474	-
Total debt securities	13,199	1,328	-	1,329	-
Total securitisation	4,999	-	-	-	-
Total off balance sheet exposure	13,513	3,432	4	3,428	-
Total other exposure	13,501	342	-	342	-
Total exposures	**130,779**	**52,673**	**101**	**52,573**	**-**
Of which defaulted	41	-	-	-	-

Standardised approach – credit risk exposure and credit risk mitigation (CRM) effects (EU CR4)

Guarantees provided by governments, WSW and WfZ are an important part in the determination of the credit risk profile of BNG Bank. Below tables show the effect of all CRM techniques. RWA density provides a synthetic metric on the portfolio that remains after the application of CRM techniques.

						31/12/2019
	EXPOSURES BEFORE CCF AND CRM		EXPOSURES POST CCF AND CRM		RWAS AND RWA DENSITY	
Tabel: EU CR-4	ON-BALANCE	OFF-BALANCE	ON-BALANCE	OFF-BALANCE	RWA	RWA DENSITY
Central governments or central banks	6,845	1	52,310	510	–	0%
Regional governments or local authorities	33,971	3,018	38,047	450	64	0%
Public sector entities	3,001	573	2,810	8	368	13%
Multilateral Development Banks	434	–	434	–	–	0%
International Organisations	493	–	493	–	–	0%
Institutions	632	–	94	–	19	20%
Corporates	56,381	7,182	7,835	229	7,255	90%
Secured by mortgages on immovable property	138	–	40	–	40	100%
Exposures in default	134	29	83	–	83	100%
Items associated with particularly high risk	107	–	19	–	28	150%
Covered bonds	1,389	–	1,389	–	139	10%
Claims with a short-term credit assessment	–	–	–	–	–	-
Collective investments undertakings (CIU)	–	–	–	–	–	-
Equity	35	–	35	–	35	100%
Securitisation positions	4,938	167	4,869	74	1,038	21%
Other items	16,493	–	16,493	–	31	0%
Total	**124,991**	**10,969**	**124,951**	**1,271**	**9,100**	**7%**

						31/12/2018
	EXPOSURES BEFORE CCF AND CRM		EXPOSURES POST CCF AND CRM		RWAS AND RWA DENSITY	
	ON-BALANCE	OFF-BALANCE	ON-BALANCE	OFF-BALANCE	RWA	RWA DENSITY
Tabel: EU CR-4						
Central governments or central banks	7,741	1	51,902	483	-	0%
Regional governments or local authorities	32,122	5,963	36,345	436	69	0%
Public sector entities	2,295	783	2,309	29	310	13%
Multilateral Development Banks	802	-	802	-	-	0%
International Organisations	542	-	542	-	-	0%
Institutions	537	-	11	-	2	20%
Corporates	55,187	6,760	7,429	273	6,884	89%
Secured by mortgages on immovable property	157	-	47	-	47	100%
Exposures in default	41	-	14	-	14	100%
Covered bonds	1,198	-	1,198	-	120	10%
Claims with a short-term credit assessment	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-
Equity	44	-	44	-	44	100%
Securitisation positions	4,801	198	4,728	99	1,193	25%
Other items	11,607	-	11,607	-	34	0%
Total	**117,074**	**13,705**	**116,978**	**1,320**	**8,717**	**7%**

Standardised approach before risk mitigation (EU CR5)

												31/12/2019
Table: EU CR5	0%	2%	10%	20%	35%	50%	100%	> 100%	OTHERS	DE-DUCTED	TOTAL EXPOSURE VALUE	OF WHICH UNRATED
Central governments or central banks	52,820	–	–	–	–	–	–	–	–	–	52,820	52,821
Regional governments or local authorities	38,292	–	–	176	–	–	29	–	–	–	38,497	38,424
Public sector entities	977	–	–	1,841	–	–	–	–	–	–	2,818	2,818
Multilateral Development Banks	434	–	–	–	–	–	–	–	–	–	434	434
International Organisations	493	–	–	–	–	–	–	–	–	–	493	493
Institutions	–	–	–	88	–	6	–	–	–	–	94	5
Corporates	–	–	–	411	0	971	6,668	13	–	–	8,063	6,847
Secured by mortgages on immovable property	–	–	–	–	–	–	40	–	–	–	40	40
Exposures in default	–	–	–	–	–	–	83	–	–	–	83	83
Items associated with particularly high risk	–	–	–	–	–	–	–	19	–	–	19	19
Covered bonds	–	–	1,389	–	–	–	–	–	–	–	1,389	–
Claims with a short-term credit assessment	–	–	–	–	–	–	–	–	–	–	–	–
Collective investments undertakings (CIU)	–	–	–	–	–	–	–	–	–	–	–	–
Equity	–	–	–	–	–	–	35	–	–	–	35	35
Securitisation positions	56	–	684	3,473	46	336	–	21	327	–	4,943	4,943
Other items	16,462	–	–	–	–	–	31	–	–	–	16,493	16,493
Total credit risk exposure	**109,534**	**-**	**2,073**	**5,989**	**46**	**1,313**	**6,886**	**53**	**327**	**-**	**126,221**	**123,453**

Table: EU CR5	0%	2%	10%	20%	35%	50%	100%	> 100%	OTHERS	DE-DUCTED	TOTAL EXPOSURE VALUE	OF WHICH UNRATED
												31/12/2018
Central governments or central banks	52,385	-	-	-	-	-	-	-	-	-	52,385	52,385
Regional governments or local authorities	36,556	-	-	194	-	-	30	-	-	-	36,780	36,769
Public sector entities	789	-	-	1,549	-	-	-	-	-	-	2,338	2,338
Multilateral Development Banks	802	-	-	-	-	-	-	-	-	-	802	802
International Organisations	542	-	-	-	-	-	-	-	-	-	542	542
Institutions	-	-	-	11	-	-	-	-	-	-	11	3
Corporates	-	-	-	473	0	891	6,328	11	-	-	7,703	6,551
Secured by mortgages on immovable property	-	-	-	-	-	-	47	-	-	-	47	47
Exposures in default	-	-	-	-	-	-	14	-	-	-	14	1
Covered bonds	-	-	1,198	-	-	-	-	-	-	-	1,198	-
Claims with a short-term credit assessment	-	-	-	-	-	-	-	-	-	-	-	-
Collective investments undertakings (CIU)	-	-	-	-	-	-	-	-	-	-	-	-
Equity	-	-	-	-	-	-	44	-	-	-	44	44
Securitisation positions	76	-	-	4,152	53	505	7	24	-	10	4,827	-
Other items	11,573	-	-	-	-	-	34	-	-	-	11,607	11,607
Total credit risk exposure	**102,723**	**-**	**1,198**	**6,379**	**53**	**1,396**	**6,504**	**35**	**-**	**10**	**118,298**	**111,089**

Counterparty credit risk (article 439 CRR)

Counterparty credit risk means the risk that the counterparty to a transaction could default before the final settlement of the transaction's cash flows. The exposure to counterparty credit risk pertains to exposures arising from derivatives, repurchase transactions, securities or commodities lending or borrowing transactions, long settlement transactions and margin lending transactions. This section provides different perspectives on this counterparty credit risk as it pertains to BNG Bank.

Analysis of the counterparty credit risk (CCR) exposure by approach (EU CCR1)

The credit risk of derivative transactions is relatively small, despite the fact that principal amounts totalled EUR 217 billion at year-end 2019 (2018: EUR 194 billion). With the exception of currency derivatives, these contractual principal amounts merely serve as accounting quantities and do not reflect the size of cash flows or the risk associated with the derivatives. The credit equivalent of the derivatives portfolio serves as a more accurate indicator in this regard. The credit risk is expressed in terms of credit equivalents, in accordance with central bank guidelines. The credit equivalent consists of the market value plus an add-on for future credit risk. Contracts with a positive value – where contractual default by the counterparty would cause the bank to miss out on revenue – are relevant in this regard. BNG Bank determines this value using the Mark-to-Market (MtM) method. The current replacement cost is calculated by including collateral received or posted. In addition, the principal amounts are multiplied by percentages based on the specific product and its maturity period in order to determine the potential credit risk ('add-on'). The sum of these two values (credit equivalent) indicates the net exposure to credit risk.

							31/12/2019
	NOTIONAL	REPLACEMENT COST/ CURRENT MARKET VALUE	POTENTIAL FUTURE CREDIT EXPOSURE	EEPE	MULTI-PLIER	EAD POST CRM	RWAS
Table: EU CCR1							
Mark-to-market	-	1,130	1,323	-	-	2,468	1,167
Original exposure method	-	-	-	-	-	-	-
Standardised approach	-	-	-	-	-	-	-
IMM (for derivatives and SFT's)	-	-	-	-	-	-	-
Financial collateral simple method (for SFT's)	-	-	-	-	-	-	-
Financial collateral comprehensive method (for SFT's)	-	2,969	3,103	-	-	46	11
VaR for SFT's	-	-	-	-	-	-	-
Total	**-**	**4,099**	**4,426**	**-**	**-**	**2,514**	**1,178**

Table: EU CCR1	NOTIONAL	REPLACEMENT COST/ CURRENT MARKET VALUE	POTENTIAL FUTURE CREDIT EXPOSURE	EEPE	MULTI-PLIER	EAD POST CRM	RWAS
							31/12/2018
Mark-to-market	-	1,001	1,382	-	-	2,368	1,177
Original exposure method	-	-	-	-	-	-	-
Standardised approach	-	-	-	-	-	-	-
IMM (for derivatives and SFT's)	-	-	-	-	-	-	-
Financial collateral simple method (for SFT's)	-	-	-	-	-	-	-
Financial collateral comprehensive method (for SFT's)	-	4,767	4,936	-	-	18	7
VaR for SFT's	-	-	-	-	-	-	-
Total	**-**	**5,768**	**6,317**	**-**	**-**	**2,386**	**1,184**

Credit valuation adjustment (CVA) capital charge (EU CCR2)

Table: EU CCR2	31/12/2019	
	EXPOSURE VALUE	RWAS
Total portfolios subject to the advanced method	-	-
(i) VaR component	-	-
(ii) SVaR component	-	-
All portfolios subject to the standardised method	1,115	988
Based on the original exposure method	-	-
Total subject to the CVA capital charge	**1,115**	**988**

Table: EU CCR2	31/12/2018	
	EXPOSURE VALUE	RWAS
Total portfolios subject to the advanced method	-	-
(i) VaR component	-	-
(ii) SVaR component	-	-
All portfolios subject to the standardised method	1,136	1,070
Based on the original exposure method	-	-
Total subject to the CVA capital charge	**1,136**	**1,070**

Standardised approach – CCR exposures by regulatory portfolio and risk (EU CCR3)

Table: EU CCR3	0%	2%	10%	20%	50%	70%	75%	100%	150%	OTHERS	TOTAL EXPOSURE VALUE	OF WHICH UNRATED
												31/12/2019
Counterparty credit risk												
Central governments or central banks	43	-	-	-	-	-	-	-	-	-	43	43
Regional governments or local authorities	340	-	-	-	-	-	-	-	-	-	340	340
Public Sector Entities	-	-	-	35	7	-	-	-	-	-	42	42
Institutions	-	1,198	-	850	525	-	-	-	-	-	2,573	80
Corporates	-	-	-	4	-	-	-	711	-	-	715	711
Total	**383**	**1,198**	**-**	**889**	**532**	**-**	**-**	**711**	**-**	**-**	**3,713**	**1,216**

Table: EU CCR3	0%	2%	10%	20%	50%	70%	75%	100%	150%	OTHERS	TOTAL EXPOSURE VALUE	OF WHICH UNRATED
												31/12/2018
Counterparty credit risk												
Central governments or central banks	28	-	-	-	-	-	-	-	-	-	28	28
Regional governments or local authorities	212	-	-	-	-	-	-	-	-	-	212	212
Public Sector Entities	-	-	-	62	-	-	-	-	-	-	62	62
Institutions	-	687	-	712	658	-	-	-	-	-	2,057	195
Corporates	-	-	-	4	-	-	-	692	-	-	696	692
Total	**240**	**687**	**-**	**778**	**658**	**-**	**-**	**692**	**-**	**-**	**3,055**	**1,189**

Impact of netting and collateral held on exposure values (EU CCR5-A)

					31/12/2019
Table: EU CCR5-A	GROSS POSITIVE FAIR VALUE OR NET CARRYING AMOUNT	NETTING BENEFITS	NETTED CURRENT CREDIT EXPOSURE	COLLATERAL HELD	NET CREDIT EXPOSURE
Derivatives	12,184	8,939	2,202	1,157	1,065
SFTs	3,105	-	3,105	3,057	49
Cross-product netting	-	-	-	-	-
Total	**15,289**	**8,939**	**5,307**	**4,214**	**1,114**

					31/12/2018
Table: EU CCR5-A	GROSS POSITIVE FAIR VALUE OR NET CARRYING AMOUNT	NETTING BENEFITS	NETTED CURRENT CREDIT EXPOSURE	COLLATERAL HELD	NET CREDIT EXPOSURE
Derivatives	8,801	7,433	1,368	414	954
SFTs	4,938	–	4,938	4,918	20
Cross-product netting	–	–	–	–	–
Total	**13,739**	**7,433**	**6,306**	**5,332**	**974**

Composition of collateral for exposures to counterparty credit risk (EU CCR5-B)

	COLLATERAL USED IN DERIVATIVE TRANSACTIONS		COLLATERAL USED IN SECURITIES FINANCE TRANSACTIONS	
	FAIR VALUE OF COLLATERAL RECEIVED	FAIR VALUE OF COLLATERAL POSTED	FAIR VALUE OF COLLATERAL RECEIVED	FAIR VALUE OF COLLATERAL POSTED
Table: EU CCR5-B				
Cash collateral	1,157	14,933	49	49
Paper	-	895	3,369	2,984
Total 31-12-2019	**1,157**	**15,828**	**3,418**	**3,033**
Cash collateral	414	12,038	20	20
Paper	-	462	5,376	4,750
Total 31-12-2018	**414**	**12,500**	**5,396**	**4,770**

At year-end 2019, the collateral posted amounted to EUR 15.8 billion (2018: EUR 12.5 billion). The deterioration of BNG Bank's rating by three notches would increase this amount by EUR 34 million (2018: EUR 10.5 million). The strength of the bank's liquidity position is sufficient to meet, and to absorb fluctuations in, higher collateral obligations.

Exposures to central counterparties (EU CCR8)

Table: EU CCR8	31/12/2019 EAD POST CRM	31/12/2019 RWAS
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	1,198	24
(i) OTC derivatives	*1,196*	*24*
(ii) Exchange traded derivatives	-	-
(iii) SFT's	*2*	*0*
(iv) Netting sets where cross-product netting has been approved	-	-
Segregated initial margin	-	-
Non-segregated initial margin	-	-
Prefunded default fund contributions	31	0
Alternative calculation of own funds requirements for exposures	-	-
Total exposures to QCCPS	**1,229**	**24**

Table: EU CCR8	31/12/2018 EAD POST CRM	31/12/2018 RWAS
Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	690	14
(i) OTC derivatives	*688*	*14*
(ii) Exchange traded derivatives	-	-
(iii) SFT's	*2*	*0*
(iv) Netting sets where cross-product netting has been approved	-	-
Segregated initial margin	-	-
Non-segregated initial margin	-	-
Prefunded default fund contributions	35	3
Alternative calculation of own funds requirements for exposures	-	-
Total exposures to QCCPS	**725**	**17**

BNG Bank only has exposures with QCCPS, therefore items regarding exposures to non-QCCPS are not mentioned in the table above.

Unencumbered assets (article 443 CRR)

Encumbered and unencumbered financial assets

The value of the encumbered and unencumbered assets is related to the median value of the reporting year by broad categories of asset type.

								2019
	CARRYING AMOUNT OF ENCUMBERED ASSETS		FAIR VALUE OF ENCUMBERED ASSETS		CARRYING AMOUNT OF UNENCUMBERED ASSETS		FAIR VALUE OF UNENCUMBERED ASSETS	
		of which notionally elligible EHQLA and HQLA		of which notionally elligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
Assets of the reporting institution	**22,263**	**6,739**			**149,915**	**7,397**		
Equity instruments	-	-			0	-		
Debt securities	7,244	6,739	7,261	6,737	10,592	7,397	10,696	7,498
– of which: covered bonds	1,104	1,104	1,104	1,104	206	206	206	206
– of which: asset-backed securities	465	383	462	381	4,132	2,509	4,154	2,524
– of which: issued by general governments	4,421	4,421	4,421	4,421	4,236	4,196	4,329	4,289
– of which: issued by financial corporations	2,346	2,263	2,342	2,261	5,017	3,016	5,015	3,019
– of which: issued by non-financial corporations	478	55	498	55	1,339	185	1,352	190
Other assets	15,019	-			139,323	-		
– of which: Mortgage loans	–	-			145	-		
– of which: loans on demand	–	-			15,439	-		

								2018
	CARRYING AMOUNT OF ENCUMBERED ASSETS		FAIR VALUE OF ENCUMBERED ASSETS		CARRYING AMOUNT OF UNENCUMBERED ASSETS		FAIR VALUE OF UNENCUMBERED ASSETS	
		of which notionally elligible EHQLA and HQLA		of which notionally elligible EHQLA and HQLA		of which EHQLA and HQLA		of which EHQLA and HQLA
Assets of the reporting institution	**19,815**	**6,568**			**131,301**	**6,772**		
Equity instruments	-	-			0	-		
Debt securities	6,726	6,568	6,731	6,568	10,692	6,772	10,742	6,784
– of which: covered bonds	418	418	418	418	811	790	811	790
– of which: asset-backed securities	76	–	76	–	3,766	1,794	3,770	1,792
– of which: issued by general governments	5,022	5,022	5,022	5,022	3,889	3,848	3,898	3,857
– of which: issued by financial corporations	1,556	1,490	1,555	1,490	5,323	2,753	5,321	2,751
– of which: issued by non-financial corporations	148	56	154	56	1,480	171	1,523	176
Other assets	13,089	-			120,609	-		
– of which: Mortgage loans	–	-			165	-		
– of which: loans on demand	–	-			15,069	-		

Collateral received by an institution, by broad categories of product type

The value of the collateral received is related to the median value of the reporting year by broad categories of asset type.

	2019			
	FAIR VALUE OF ENCUMBERED COLLATERAL RECEIVED OR OWN DEBT SECURITIES ISSUED		FAIR VALUE OF COLLATERAL RECEIVED OR OWN DEBT SECURITIES ISSUED AVAILABLE FOR ENCUMBRANCE	
		of which notionally elligible EHQLA and HQLA		of which EHQLA and HQLA
Collateral received by the reporting institution	**-**	**-**	**5,940**	**4,792**
Loans on demand	–	–	–	–
Equity instruments	–	–	–	–
Debt securities	–	–	5,036	4,792
– *of which: covered bonds*	–	–	–	–
– *of which: asset-backed securities*	–	–	–	–
– *of which: issued by general governments*	–	–	*897*	*652*
– *of which: issued by financial corporations*	–	–	*4,140*	*4,140*
– *of which: issued by non-financial corporations*	–	–	–	–
Loans and advances other than loans on demand	–	–	904	–
Other collateral received	–	–	–	–
– of which: …	–	–	–	–
Own debt securities issued other than own covered bonds or asset-backed securities	–	–	–	–
Own covered bonds and asset-backed securities issued and not yet pledged			–	–
Total assets, collateral received and own debt securities issued	**22,263**	**6,739**		

	2018			
	FAIR VALUE OF ENCUMBERED COLLATERAL RECEIVED OR OWN DEBT SECURITIES ISSUED		FAIR VALUE OF COLLATERAL RECEIVED OR OWN DEBT SECURITIES ISSUED AVAILABLE FOR ENCUMBRANCE	
		of which notionally elligible EHQLA and HQLA		of which EHQLA and HQLA
Collateral received by the reporting institution	**-**	**-**	**4,185**	**3,748**
Loans on demand	–	–	–	–
Equity instruments	–	–	–	–
Debt securities	–	–	3,830	3,748
– *of which: covered bonds*	–	–	–	–
– *of which: asset-backed securities*	–	–	–	–
– *of which: issued by general governments*	–	–	*1,027*	*946*
– *of which: issued by financial corporations*	–	–	*2,802*	*2,802*
– *of which: issued by non-financial corporations*	–	–	–	–
Loans and advances other than loans on demand	–	–	355	–
Other collateral received	–	–	–	–
– of which: …	–	–	–	–
Own debt securities issued other than own covered bonds or asset-backed securities	–	–	–	–
Own covered bonds and asset-backed securities issued and not yet pledged			–	–
Total assets, collateral received and own debt securities issued	**19,815**	**6,568**		

Carrying amount of encumbered assets/ collateral received and associated liabilities

The value of the encumbered assets, collateral received and associated liabilities is related to the median value of the reporting year by broad categories of asset type.

	2019	
	MATCHING LIABILITIES, CONTINGENT LIABILITIES OR SECURITIES LENT	ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED OTHER THAN COVERED BONDS AND ABSS ENCUMBERED
Carrying amount of selected financial liabilities	17,283	21,872
– *of which derivatives*	*17,283*	*21,872*
Other sources of encumbrance	337	391
TOTAL SOURCES OF ENCUMBRANCE	**17,620**	**22,263**

	2018	
	MATCHING LIABILITIES, CONTINGENT LIABILITIES OR SECURITIES LENT	ASSETS, COLLATERAL RECEIVED AND OWN DEBT SECURITIES ISSUED OTHER THAN COVERED BONDS AND ABSS ENCUMBERED
Carrying amount of selected financial liabilities	14,561	19,388
– *of which derivatives*	*14,561*	*19,388*
Other sources of encumbrance	327	427
TOTAL SOURCES OF ENCUMBRANCE	**14,887**	**19,815**

Narrative information on the importance of asset encumbrance for an institution

Encumbered assets are assets involving a pledge or claim and include loans deposited at the central bank, issued paper collateral for repurchase agreements and derivative contracts, re-issued paper collateral and collateralised buy-backs of BNG Bank issues. In times of funding and liquidity needs, encumbered financial assets are not freely disposable to be able to meet these needs in the short term.

Selected financial liabilities consist of derivative positions with a negative balance sheet value which are covered by paper collateral. Collateral received by BNG Bank comprises of debt securities issued by governments and financial corporations and is used for money market transactions. BNG Bank also pledged a portfolio of loans with the Central Bank for monetary purposes. Since most of the banks assets could serve as collateral, this may be further extended in the event of prolonged stress.

Market risk (article 445 CRR)

For the disclosure of market risk pursuant with policies and strategies, please refer to the chapter Risk management objectives and policies in the section ‘market risk’. Below table MR1 shows the components of own funds requirements under the standardised approach for market risk. Only temporary small foreign exchange positions for which it is not efficient to hedge the risks may result in a limited capital charge in the interim. At 31 December 2019 this position resulted in no capital requirement (2018: EUR 7 million) because our exposure on foreign exchange risk is below the threshold of 2% of eligible capital.

Market risk under the standardised approach (EU MR1)

Tabel: EU MR1	31/12/2019 RWAS	31/12/2019 CAPITAL REQUIREMENT	31/12/2018 RWAS	31/12/2018 CAPITAL REQUIREMENT
Outright products				
Interest rate risk (general and specific)	-	-	-	-
Equity risk (general and specific)	-	-	-	-
Foreign exchange risk	-	-	93	7
Commodity risk	-	-	-	-
Options				
Simplified approach	-	-	-	-
Delta-plus method	-	-	-	-
Scenario approach	-	-	-	-
Securitisation (specific risk)	-	-	-	-
Total	**-**	**-**	**93**	**7**

Remuneration (article 450 CRR)

The remuneration policy is compatible with the legal and policy frameworks for institutions established in the Netherlands. In 2019, the following laws and regulations were instrumental in determining the remuneration policy:
- European and national financial supervision rules, including the Capital Requirements Regulation, the Financial Supervision Act, the Regulation on Sound Remuneration Policies, the Remuneration Policy (Financial Enterprises) Act, and the Work and Security Act;
- the Dutch Corporate Governance Code;
- the Banking Code.

In addition to satisfying legal and regulatory requirements, the remuneration policy also complies with the central government's policy for state-owned enterprises. Disclosure on the remuneration policies, responsible committees, governance processes, applied criteria and amounts involved are provided in the annual report as well as on the website (e.g. remuneration report). [5]

[5] Annual report (p. 64, pp. 93 - 94 and 219 - 222).

Leverage ratio (article 451 CRR)

Leverage ratio (article 451 CRR)

		31/12/2019 APPLICABLE AMOUNTS	31/12/2018 APPLICABLE AMOUNTS
1	Total assets as per published financial statements	149,689	137,509
2	Adjustment for entities which are consolidated for accounting purposes but are outside the scope of regulatory consolidation	-	-
3	(Adjustment for fiduciary assets recognised on the balance sheet pursuant to the applicable accounting framework but excluded from the leverage ratio exposure measure in accordance with Article 429(13) of Regulation (EU) No 575/2013 "CRR")	-	-
4	Adjustments for derivative financial instruments	-21,498	-17,683
5	Adjustments for securities financing transactions "SFTs"	2	3
6	Adjustment for off-balance sheet items (ie conversion to credit equivalent amounts of off-balance sheet exposures)	2,110	2,424
EU-6a	(Adjustment for intragroup exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (7) of Regulation (EU) No 575/2013)	-	-
EU-6b	(Adjustment for exposures excluded from the leverage ratio exposure measure in accordance with Article 429 (14) of Regulation (EU) No 575/2013)	-	-
7	Other adjustments	-7	-21
8	**Total leverage ratio exposure**	**130,296**	**122,232**

Table LRCom: Leverage ratio common disclosure

		31/12/2019 CRR LEVERAGE RATIO EXPOSURES	31/12/2018 CRR LEVERAGE RATIO EXPOSURES
On-balance sheet exposures (excluding derivatives and SFTs)			
1	On-balance sheet items (excluding derivatives, SFTs and fiduciary assets, but including collateral)	139,855	129,119
2	(Asset amounts deducted in determining Tier 1 capital)	–7	–21
3	**Total on-balance sheet exposures (excluding derivatives, SFTs and fiduciary assets) (sum of lines 1 and 2)**	**139,848**	**129,098**
Derivative exposures			
4	Replacement cost associated with all derivatives transactions (ie net of eligible cash variation margin)	1,269	1,072
5	Add-on amounts for PFE associated with all derivatives transactions (mark-to-market method)	1,869	1,650
EU-5a	Exposure determined under Original Exposure Method	-	-
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the applicable accounting framework	-	-
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	–14,802	–12,015
8	(Exempted CCP leg of client-cleared trade exposures)	-	-
9	Adjusted effective notional amount of written credit derivatives	-	-
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-	-
11	**Total derivative exposures (sum of lines 4 to 10)**	**-11,664**	**-9,293**
Securities financing transaction exposures			
12	Gross SFT assets (with no recognition of netting), after adjusting for sales accounting transactions	-	-
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	-	-
14	Counterparty credit risk exposure for SFT assets	2	3
EU-14a	Derogation for SFTs: Counterparty credit risk exposure in accordance with Article 429b (4) and 222 of Regulation (EU) No 575/2013	-	-
15	Agent transaction exposures	-	-
EU-15a	(Exempted CCP leg of client-cleared SFT exposure)	-	-
16	**Total securities financing transaction exposures (sum of lines 12 to 15a)**	**2**	**3**
Other off-balance sheet exposures			
17	Off-balance sheet exposures at gross notional amount	10,974	13,713
18	(Adjustments for conversion to credit equivalent amounts)	–8,864	–11,289
19	**Other off-balance sheet exposures (sum of lines 17 to 18)**	**2,110**	**2,424**

		31/12/2019	31/12/2018
Exempted exposures in accordance with CRR Article 429 (7) and (14) (on and off balance sheet)			
EU-19a	(Exemption of intragroup exposures (solo basis) in accordance with Article 429(7) of Regulation (EU) No 575/2013 (on and off balance sheet))	-	-
EU-19b	(Exposures exempted in accordance with Article 429 (14) of Regulation (EU) No 575/2013 (on and off balance sheet))	-	-
Capital and total exposures			
20	Tier 1 capital	4,692	4,614
21	**Total leverage ratio exposures (sum of lines 3, 11, 16, 19, EU-19a and EU-19b)**	**130,296**	**122,232**
Leverage ratio			
22	Leverage ratio	3.6%	3.8%
Choice on transitional arrangements and amount of derecognised fiduciary items			
EU-23	Choice on transitional arrangements for the definition of the capital measure	Fully phased in	Fully phased in
EU-+A6924	Amount of derecognised fiduciary items in accordance with Article 429(11) of Regulation (EU) NO 575/2013	-	-

Table LRSpl: Split-up of on balance sheet exposures (excluding derivatives, SFTs and exempted exposures)

		31/12/2019 CRR LEVERAGE RATIO EXPOSURES	31/12/2018 CRR LEVERAGE RATIO EXPOSURES
On-balance sheet exposures (excluding derivatives and SFTs)			
EU-1	Total on-balance sheet exposures (excluding derivatives, SFTs, and exempted exposures), of which:	139,855	129,119
EU-2	Trading book exposures	-	-
EU-3	Banking book exposures, of which:	139,855	129,119
EU-4	Covered bonds	1,389	1,198
EU-5	Exposures treated as sovereigns	42,646	41,925
EU-6	Exposures to regional governments, MDB, international organisations and PSE NOT treated as sovereigns	2,100	1,579
EU-7	Institutions	15,434	12,553
EU-8	Secured by mortgages of immovable properties	138	157
EU-9	Retail exposures	-	-
EU-10	Corporate	56,395	55,219
EU-11	Exposures in default	290	57
EU-12	Other exposures (eg equity, securitisations, and other non-credit obligation assets)	21,463	16,431

Table LRQua: Free format text boxes for disclosure on qualitative items

1	Description of the processes used to manage the risk of excessive leverage	The final requirements for the leverage ratio were published in June 2019 and will become effective as of June 2021. Minimum requirement is 3%. Under certain conditions, public development credit institutions may deduct promotional loans from the exposure measure. BNG Bank meets this requirement and the expected ratio after this adjustment is estimated to be at least double the current ratio.
2	Description of the factors that had an impact on the Leverage Ratio during the period to which the disclosed Leverage Ratio refers	The increase in equity is a result of retained earnings, balance sheet growth through net new sales and an increase in derivatives exposure due to market conditions.

Exposures in equities not included in the trading book (article 447 CRR)

The exposure comprises the shareholdings in BNG Bank's banking book. The tables below present the various values of the portfolio at year-end 2019 and 2018.

				31/12/2019
	BALANCE SHEET VALUE (EXPOSURE)	FAIR VALUE	CUMULATIVE UNREALISED RESULTS	RESULTS REALISED IN FINANCIAL YEAR
Financial assets at fair value through profit and loss	-	-	-	-
Associates and joint ventures				
– Associates	3	3	-	–2
– Joint ventures	32	32	-	2
Total	**35**	**35**	**-**	**0**

				31/12/2018
	BALANCE SHEET VALUE (EXPOSURE)	FAIR VALUE	CUMULATIVE UNREALISED RESULTS	RESULTS REALISED IN FINANCIAL YEAR
Financial assets at fair value through profit and loss	-	-	-	-
Associates and joint ventures				
– Associates	3	3	-	1
– Joint ventures	41	41	-	–1
Total	**44**	**44**	**-**	**0**

BNG Bank has no investments in listed shares. The shares in the Investments in associates and joint ventures balance sheet item concern investments in joint ventures entered into by BNG Gebiedsontwikkeling. The purpose of these partnerships is to develop and allocate land for the construction of homes and industrial estates, together with public authorities, at the bank's own expense and risk. The shares in associates and the shares in the Financial assets at Fair Value through Other Comprehensive Income (FVOCI) balance sheet item concern investments in private equity exposures in companies that are significant suppliers to the public sector.

The Investments in associates and joint ventures balance sheet item is stated according to the equity method. The Financial assets at FVOCI item is stated at fair value and value movements are recognised in equity, net of taxes. Further information can be found in the annual report (pp. 117-140) under 'Accounting principles for the consolidated financial statements'.

Exposure to securitisation positions (article 449 CRR)

BNG Bank acts primarily as an investor in the most senior tranches of securitisations for the ALM portfolio; these investments in securitisations are part of the banking book. The underlying assets are mostly residential mortgages. The bank does not invest in synthetic securitisations or resecuritisations. As well as acting as an investor in securitisations, BNG Bank fulfils a number of additional roles, albeit to a limited extent. These include the role of Issuer Account Bank and the role of Cash Advance Facility Provider in that the bank provides liquidity facilities to finance securitisations. BNG Bank does not act as an originator or sponsor. This means that the bank has not transferred any assets to securitisations and does not support securitised assets.

	31/12/2019	31/12/2018
Securitisations broken down by underlying assets		
Securitisations on the balance sheet with underlying assets in:		
– Home mortgages	1,281	1,336
– Home mortgages with NHG guarantee	3,512	3,316
– Other	150	156
Total balance sheet value	**4,943**	**4,808**
Off-balance sheet commitments regarding securitisations	167	198
Total securitisation positions	**5,110**	**5,006**

At year-end 2019 the balance sheet value amounted to EUR 4.9 billion (2018: EUR 4.8 billion) in securitisation positions. The off-balance sheet securitisation commitments at year-end 2019 amounted to EUR 0.2 billion (2018: EUR 0.2 billion) and concerned liquidity facilities. BNG Bank considers the credit risk of these facilities to be virtually zero. The facilities may only be drawn on under strict conditions (e.g. in the event of technical payment problems), and in that case BNG Bank's claim will have preference over all other claims. All securitisations in the bank's portfolio have at least one external rating from S&P, Moody's, Fitch or DBRS. Any interest rate risks are hedged with derivatives, in conformity with policy. The aforementioned risks are monitored by the Investment Committee. All securitisations are subjected to an impairment test twice a year. As investments are limited to the most senior tranches the liquidity risk for BNG Bank is considered limited as these senior tranches are impacted last if liquidity issues would arise for the underlying securitisation.

Exposure value and capital requirement of securitisations broken down by risk weighting

	31/12/2019		31/12/2018	
	EXPOSURE VALUE	CAPITAL REQUIREMENT	EXPOSURE VALUE	CAPITAL REQUIREMENT
0%	56	0	76	0
5%	327	1	n/a	n/a
10%	684	5	n/a	n/a
20%	3,473	56	4,152	66
35%	46	1	53	1
50%	336	13	505	20
100%	0	0	7	1
350%	21	6	24	7
1250%[1]	0	0	10	0
Total	**4,943**	**82**	**4,827**	**95**

1 In 2018 the exposure with a risk weight of 1250% is offset against the CET1 capital.

Under CRD IV, BNG Bank applies the Standardised Approach (SA) in calculating risk-weighted exposure values of securitisations in relation to credit risk. Most of the securitisation positions have a 20% weighting. In 2019 no securitisations have a 1250% weighting because of the rating. If these items occur BNG Bank takes advantage of the option to offset these items against the CET1 capital.

Overview of Pillar 3 references

The table below presents an overview of the relevant regulatory guidelines in relation to Pillar 3 disclosures and the location where the information is included in this report. The main reference point for these regulatory disclosure requirements is Part Eight of the Capital Requirements Directive (CRR). However, the European Banking Authority (EBA) as well as the European Commission published several additional guidelines or standards that prescribe in more detail how specific information should be disclosed. Most noteworthy in this respect are the following:

- EBA/GL/2018/10: Guidelines on disclosure of non-performing and forborne exposures
- (EU) 2017/2295 Regulatory Technical Standards for disclosure of encumbered and unencumbered assets
- EBA/GL/2017/01: Guidelines on LCR disclosure to complement the disclosure of liquidity risk management
- EBA/GL/2016/11: Guidelines on disclosure requirements under Part Eight of Regulation (EU) NO 575/2013
- EBA/GL/2016/01: Revised guidelines on the further specification of the indicators of global systemic importance and their disclosure
- (EU) 2016/200: Implementing Technical Standards with regard to disclosure of the leverage ratio
  EBA/GL/2015/22: Guidelines on sound remuneration policies
- (EU) 2015/1555: Regulatory Technical Standards for the disclosure of information in relation to the compliance of institutions with the requirement for a countercyclical capital buffer
- (EU)1030/2014: Implementing Technical Standards with regard to the disclosure of the values used to identify global systemically important institutions
- EBA/GL/2014/03: Guidelines on disclosure of encumbered and unencumbered assets
- (EU)1423/2013: Implementing Technical Standards with regard to disclosure of own funds requirements

CRR	DESCRIPTION	ADDITIONAL GUIDELINES OR STANDARDS		CLARIFICATION, IF NEEDED	LOCATION PILLAR 3 REPORT
			APPLICABLE TABLES OR TEMPLATES		
Article 435	Risk management objectives and policies	EBA/GL/ 2016/11	EU OVA EU CRA EU CCRA EU MRA	This section provides a comprehensive overview on the risks management objectives and policies. The information is mostly qualitative for which no specific format is required. Note that quantitative targets on individual risk are not disclosed due to their confidential nature.	pp. 10 - 50
				Information regarding the governance arrangements with respect to the members of the Management and Supervisory Boards is not included again in this report. The latest information on this can be found on the website of BNG Bank. The annual report includes a comprehensive overview on this as at end 2019.	p. 14
		EBA/GL/ 2017/01	EU LIQA EU LIQ1	The CRR does not include a separate article on the disclosure of liquidity risk, but EBA has issued guidelines for this under article 435 of the CRR. This information is also included in the first section of this report.	pp. 33 - 38
Article 436	Scope of application		EU LI1 EU LI2 EU LI3 EU LIA		pp. 51 - 58
Article 437	Own funds	(EU)1423/2013		BNG Bank's own funds consists of share capital and hybrid capital. The hybrid capital instruments are issued privately to a limited number of investors. The terms and conditions for these instruments are not part of the disclosure as they are only made available to these parties on the basis of confidentiality.	pp. 59 - 72

Continued on next page

Continuation of previous page

CRR	DESCRIPTION	ADDITIONAL GUIDELINES OR STANDARDS		CLARIFICATION, IF NEEDED	LOCATION PILLAR 3 REPORT
Article 438	Capital requirements	EBA/GL/ 2016/11	EU OV1		pp. 73 - 80
Article 439	Exposure to counterparty credit risk	EBA/GL/ 2016/11	EU CCR1 EU CCR2 EU CCR8 EU CCR5-A EU CCR5-B	Qualitative information as described in articles 439(a), (b) and (d) is included in the first section on risk management objectives and policies, while article 439(c) is not applicable as BNG Bank has not identified any wrong-way risk. In addition, articles 439(g), (h) and (i) are also not applicable as BNG Bank has no credit derivative hedges. The quantitative information from articles 439(e) and (f) is included in accordance with the templates provided by EBA.	pp. 108 - 114
Article 440	Countercyclical capital buffer	(EU) 2015/1555		The geographical distribution of the credit exposures of BNG Bank is limited since most of the credit exposures are concentrated in The Netherlands. However, at end of 2019 a small countercyclical capital buffer applies which is disclosed in accordance with the requirements.	pp. 79 - 80
Article 441	Indicator of global systemic importance	(EU)1030/2014		BNG Bank is not considered an institution of global systemic importance. Hence, this article is not applicable for the BNG Bank.	n/a
Article 442	Credit risk adjustments	EBA/GL/ 2018/10 EBA/GL/ 2016/11:	EU CRB-A EU CRB-B EU CRB-C EU CRB-D EU CRB-E EU CR1-A EU CR1-B EU CR1-C Templates 1, 3, 4 & 9 EU CR2-A EU CR2-B	EU CR1-D and EU CR1-E are replaced by Templates 1, 3, 4 and 9.	pp. 81 - 102

Continued on next page

Continuation of previous page

CRR	DESCRIPTION	ADDITIONAL GUIDELINES OR STANDARDS		CLARIFICATION, IF NEEDED	LOCATION PILLAR 3 REPORT
Article 443	Unencumbered assets	(EU) 2017/2295 EBA/GL/ 2014/03			pp. 116 - 121
Article 444	Use of ECAI's	EBA/GL/ 2016/11	EU CRD EU CR5 EU CCR3	Qualitative information on the use of ECAI's is included in the first section on risk management objectives and policies, and specifically in the subsection on credit risk. The quantitative template as provided by EBA is part of the section with templates on credit risk.	pp. 26, 106 - 107, 112
Article 445	Exposure of market risk	EBA/GL/ 2016/11	EU MR1		pp. 122 - 123
Article 446	Operational risk			As included in table EU OV1 in the section on capital requirements, BNG Bank applies the standardized approach for the assessment of own fund requirements for operational risk.	pp. 39 - 45
Article 447	Exposure in equities not included in the trading book			BNG Bank has a small exposure in equities. An overview on these exposures is included separately in this Pillar 3 report. Note that BNG Bank does not have a trading book.	pp. 129 - 130
Article 448	Exposure to interest rate risk on position not included in the trading book			An overview on the nature of the interest rate risk is included in the qualitative part of this report and is specifically addressed in the subsection on market risk.	pp. 29 - 32
Article 449	Exposure to securitisation positions				pp. 131 - 132
Article 450	Remuneration policy	EBA/GL/ 2015/22		BNG Bank has a prudent system of remuneration that complies with the legal	pp. 124

Continued on next page

Continuation of previous page CRR	DESCRIPTION	ADDITIONAL GUIDELINES OR STANDARDS		CLARIFICATION, IF NEEDED	LOCATION PILLAR 3 REPORT
				and policy frameworks for institutions established in the Netherlands. In addition to satisfying legal and regulatory requirements, the remuneration policy also complies with the central government's policy for state-owned enterprises. Disclosure on the remuneration policies, responsible committees, governance processes, applied criteria and amounts involved are provided in the annual report as well on the website (e.g. remuneration report).	Annual report, p. 64, pp. 93 - 94 and 219 - 222
Article 451	Leverage ratio	(EU) 2016/200			pp. 125 - 128
Article 452	Use of IRB approach to credit risk			BNG Bank does not apply the IRB approach.	n/a
Article 453	Use of credit risk mitigation technique		EU CRC EU CR3 EU CR4	Qualitative information as described in tables EU CRC and EU CRD is part of the comprehensive disclosure in the first section on risk management objectives and policies. The prescribed quantitative templates are included separately in this report.	pp. 22 - 28, 103 - 105
Article 454	Use of the Advanced Measurement Approaches (AMA) to Operational Risk			BNG Bank does not apply the AMA approach to operational risk.	n/a
Article 455	Use of internal market risk models			BNG Bank does not apply internal market risk models.	n/a